OE FORM 6000, 2/69

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

ERIC REPORT RESUME

ERIC ACC. NO. ED 028 310			
CH ACC. NO. AA 000 346	P.A.	PUBL. DATE Jun 69	ISSUE RIESEP69

IS DOCUMENT COPYRIGHTED? YES ☐ NO ☒
ERIC REPRODUCTION RELEASE? YES ☐ NO ☒
LEVEL OF AVAILABILITY I ☒ II ☐ III ☐

AUTHOR
Dunn, Mary K., Comp.; Harris, Larry A., Comp.

TITLE
Research on Elementary Reading: Word Recognition. ERIC/CRIER Reading Review Series, Volume 2, Bibliography 17.

SOURCE CODE JQB36825	INSTITUTION (SOURCE)
SP. AG. CODE RMQ66004	SPONSORING AGENCY

EDRS PRICE 0.50;6.05	CONTRACT NO.	GRANT NO.
REPORT NO.		BUREAU NO.

AVAILABILITY

JOURNAL CITATION

DESCRIPTIVE NOTE 119p.

DESCRIPTORS
*Annotated Bibliographies; *Reading Research; *Word Recognition; Elementary Education; *Reading Instruction; Reading Skills

IDENTIFIERS

ABSTRACT

Research on word recognition is listed in two sections: Part 1, 1950 to the present, and Part 2, 1900-1949. Citations in each section are alphabetized according to the author's last name and are followed by descriptive abstracts in Part 1 and by brief annotations in Part 2. In order to make this bibliography helpful to users with varying concepts of word recognition, documents were selected according to a broad definition which considers word recognition any means of attacking new or partly known words. Included are documents ranging from those which treat sight words to those which discuss innovative teaching orthographies. Source material was drawn from the seven basic references of the ERIC/CRIER document collection: "Published Research Literature in Reading, 1964-1966," "Published Research Literature in Reading, 1950-1963," "Published Research Literature in Reading, 1900-1949," "USOE Sponsored Research on Reading," "Recent Doctoral Dissertation Research in Reading," "International Reading Association Conference Proceedings Reports on Elementary Reading," and "International Reading Association Conference Proceedings Reports on Secondary Reading."

ERIC CRIER

reading review series

Research on Elementary Reading: Word Recognition

Compiled by
Mary K. Dunn
and
Larry A. Harris
Indiana University

ED028310

AA000346

ERIC/CLEARINGHOUSE ON RETRIEVAL OF INFORMATION AND EVALUATION ON READING

. . . a national clearinghouse to organize and disseminate significant research, information, and materials on reading to teachers, administrators, researchers, and the public. A joint project of the International Reading Association and Indiana University in cooperation with the Educational Resources Information Center of USOE.

ERIC/CRIER Reading Review Series

Volume 2 Bibliography 17

U. S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Research on Elementary Reading: Word Recognition

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Indiana University

June, 1969

The ERIC Clearinghouse on Retrieval of Information and Evaluation on Reading is a national clearinghouse which collects, organizes, analyzes and disseminates significant research, information, and materials on reading to teachers, administrators, researchers, and the public. ERIC/CRIER was established as a joint project of the International Reading Association and Indiana University in cooperation with the Educational Resources Information Center of the USOE. The Clearinghouse is part of a comprehensive information system being developed for the field of education.

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INTRODUCTION

In 1966, the United States Office of Education recognized the need for more efficient use of information and research in education by creating a national network of resource centers. These centers were charged with the responsibility of acquiring, storing, retrieving, analyzing, and disseminating information in selected areas of education. The Educational Resources Information Center (ERIC) system began with twelve such centers and presently consists of nineteen.

The Clearinghouse on Reading (ERIC/CRIER), located at Indiana University, specializes in information related to the following scope note:

> The Clearinghouse on Reading is responsible for acquiring research reports, materials and information related to all aspects of reading behavior with emphasis on physiology, psychology, sociology, and the teaching of reading. Included are reports on the development and evaluation of instructional materials, curricula, tests and measurements, preparation of reading teachers and specialists, and methodology at all levels; the role of libraries and other agencies in fostering and guiding reading; and diagnostic and remedial services in school and clinic settings.[1]

The ERIC/CRIER Reading Review Series has been created to disseminate the information analysis products of the Clearinghouse. Analysis of information can take place on a broad continuum ranging from comprehensive reviews of the state of the knowledge in a given area to bibliographies of citations on various topics. Four genres of documents appear in the Reading Review Series. The first type includes bibliographies, with descriptive abstracts, developed in areas of general interest. The second type consists of bibliographies of citations, or citations and abstracts, developed on more specific topics in reading. The third type provides short, interpretive papers which analyze specific topics in reading using the existing information collection. The final genre includes comprehensive state-of-the-art monographs which critically examine given topics in reading over an extended period of time.

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[1] A complete description of the organization and development of ERIC/CRIER and a review of its products and services is available from the Clearinghouse. Write to: ERIC/CRIER, 200 Pine Hall, Indiana University, Bloomington, Indiana 47401.

Research on Elementary Reading: Word Recognition, is one in a series of bibliographies related to reading in the elementary school. Documents reported in the first part of the bibliography are recent in nature, having been written since 1950, and are reported by citation and abstract. Part two of the bibliography contains citations and brief one or two sentence annotations for documents published prior to 1950. Both parts are arranged in alphabetical order according to the author's last name.

Sources of Information

The ERIC/CRIER document collection is undoubtedly one of the most complete reservoirs of information on reading in the country. Numerous professional organizations, institutions of higher learning, government agencies, and individual researchers have cooperated in building this excellent collection of research and research-related documents on reading. This bibliography has drawn on the seven basic references which make up the bulk of the ERIC/CRIER document collection. A brief description of each reference is provided below:

ERIC/CRIER BASIC REFERENCE NUMBER 1

Published Research Literature in Reading, 1950-1963, (ED 012 834).

Presents 1,913 citations and annotations on published research literature in reading taken from the annual summaries of investigations in reading compiled on a yearly basis by the Reading Research Center of the University of Chicago. Complete bibliographic data for the journal sources used to compile the listing are given. The entries are arranged alphabetically by author in yearly segments. The bibliography covers the complete reading spectrum from preschool to college and adult years and presents research on all aspects of reading, including physiology, psychology, sociology, and the teaching of reading. Complete information on the development of the bibliography is included.

This reference can be purchased from the ERIC Document Reproduction Service--known as EDRS--(See Appendix A for complete ordering information) in microfiche or hard copy reproductions.[2] (Microfiche $1.50 and hard copy $19.90). The ED number listed above must be used in ordering the reference.

The documents reported from this reference have appeared in the published journal literature for the most part and are available in libraries with good journal collections. The documents included from this reference will have the form of the following samples when they appear in the bibliography.

3987
Ramsey, Wallace. "An Analysis of Variables Predictive of Reading Growth," Journal of Developmental Reading, 3 (Spring 1960) 158-64.

4484
Robinson, H. Alan. "A Study of the Techniques of Word Identification," The Reading Teacher, 16 (January 1963) 238-42.

Note that a four digit number precedes each of the above document citations. This is the ERIC/CRIER identification number for that document. This number can also serve to identify documents from this reference. Documents from Published Research Literature in Reading, 1950-1963 will have numbers from 2882 to 4803 inclusive.

ERIC/CRIER BASIC REFERENCE NUMBER 2

Published Research Literature in Reading, 1964-1966, (ED 013 969).

Presents 849 citations and annotations on published research literature in reading taken from the annual summaries of investigations in reading compiled on a yearly basis by the Reading Research Center of the University of Chicago. Complete bibliographic data for the journal sources used to com-

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[2] A microfiche (MF) is a 4" x 6" film card which contains up to 60 pages of text and must be read in a microfiche reader. Hard copy (HC) is a 6" x 8" reproduction, about 70 percent as large as the original text.

pile the listing are given. The entries are arranged alphabetically by author in yearly segments. The bibliography covers the complete reading spectrum from preschool to college and adult years and presents research on all aspects of reading, including physiology, psychology, sociology, and the teaching of reading. Complete information on the development of the bibliography is included.

This reference can be purchased from the ERIC Document Reproduction Service in microfiche or hard copy. (Microfiche $0.75 and hard copy $9.10). The ED number listed above must be used in ordering the reference.

The documents reported from this reference have appeared in the published journal literature and are also available in libraries which have good journal collections. The documents selected from this reference will appear in the same form as those cited for Basic Reference Number 1.

Note that a four digit ERIC/CRIER identificiation number also precedes each of the above document citations. Documents from Published Research Literature in Reading, 1964-1966 will have numbers from 4804 to 5345 inclusive for the years 1964-1966 and numbers from 6253 to 6562 inclusive from the year 1966-1967.

ERIC/CRIER BASIC REFERENCE NUMBER 3

USOE Sponsored Research on Reading, (ED 016 603).

Provides a listing of important research completed on reading and closely related topics. Relevant issues of Research in Education and Office of Education Research Reports, 1956-65 were reviewed and documents which discussed research on reading and allied topics selected for inclusion. The bibliography provides a comprehensive review of all USOE projects on reading funded by the Bureau of Research since its inception in 1956. Each entry includes citation data, index terms, and a descriptive abstract of the contents of the document. All documents are available from the ERIC Document Reproduction Service. Complete information on microfiche and hard copy prices is included with each document along with the ED number necessary for ordering the document.

This reference can be purchased from EDRS in microfiche or hard copy. (Microfiche $0.50 and hard copy $5.30). The ED number listed above must be used in ordering this reference.

The documents reported from this reference have been taken from a more extensive collection reporting USOE sponsored research in all areas of education.[3] All documents listed from this reference can be ordered from EDRS in microfiche or hard copy using the ED number and prices given with each document. The documents included from this reference will have the form of the following samples when they appear in the bibliography:

6624
Ruddell, Robert B. The Effect of Four Programs of Reading Instruction with Varying Emphasis on the Regularity of Grapheme-Phoneme Correspondences and the Relation of Language Structure to Meaning on Achievement in First Grade Reading. 194p. (CRP-2699, OEC-SAE-2699, California University, Berkeley, 1965) ED 003 820, microfiche $0.75, hard copy $9.70 from EDRS/NCR.

6612
Stauffer, Russell G. and Hammond, Dorsey. Effectiveness of a Language Arts and Basic Reader Approach to First Grade Reading Instruction. 149p. (CRP-2679, Delaware University, Newark, Delaware, 1965) ED 003 484, microfiche $0.75, hard copy $7.45 from EDRS/NCR.

The four digit ERIC/CRIER identification number preceding each document serves to identify items from this reference. Documents from USOE Sponsored Research on Reading will have numbers from 6563 to 6706 inclusive.

ERIC/CRIER BASIC REFERENCE NUMBER 4

Recent Doctoral Dissertation Research in Reading, (ED 012 693).

Lists dissertations completed in colleges and universities since 1960 in the areas of preschool, elementary, secondary, college, and adult reading. Relevant issues of Dissertation Abstracts were reviewed, and dissertations on reading were noted. A comprehensive analytical abstract was prepared by a professional in reading who worked from the summary reported for each dissertation. In many instances the dissertation it-self was reviewed in preparing the abstract. As much information as possible on the procedures, design, and conclusions of each investigation was included in the abstract. Each entry includes complete bibliographic data. Three hundred seventy-nine theses are listed alphabetically by the author's last name.

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[3] The complete collection is titled: Office of Education Research Reports, 1956-65, Indexes (OE-12028) $2.00, and Office of Education Research Reports, 1956-65, Resumes (OE-12029) $1.75. Both can be ordered by sending a check or money order to: Superintendent of Documents, U.S. Government Printing Office, Washington, D. C. 20402.

This reference can be purchased from the ERIC Document Reproduction Service in microfiche or hard copy. (Microfiche $2.00 and hard copy $11.05). The ED number listed above _must_ be used in ordering the reference.

Copies of the documents reported from this reference can be ordered from University Microfilms, Ann Arbor, Michigan in positive microfilm or hardbound xerographic form.

The order number and microfilm and xerography prices are included with the citation data for each entry in the bibliography. The _order number_ and _author's name_ must accompany requests for dissertations. Orders should be sent to: University Microfilms, A Xerox Company, 300 North Zeeb Road, Ann Arbor, Michigan 48106. There is a minimum charge of $3.00 for any order plus shipping and handling charges and any applicable taxes. Payments should not be sent with orders; the purchaser will be billed at the time of shipment. Further information on ordering dissertations can be obtained by writing University Microfilms. The documents included from this reference will have the form of the following sample when they appear in the bibliography:[4]

> 6962
> Richardson, Norma Sexton. _A Study of Three Methods of Teaching Word Recognition Skills_. 87p. (Ed.D., Arizona State University, 1966) _Dissertation Abstracts_, 27, No. 4, 998-A. Order No. 66-9820, microfilm $3.00, xerography $4.60 from University Microfilms.

The four digit ERIC/CRIER identification number preceding each document serves to identify items from this reference. Documents from Recent Doctoral Dissertation Research in Reading will have numbers from 5348 to 5727 inclusive and 6707 to 7051 inclusive. Dissertations without ERIC/CRIER identification numbers are too recent to have been completely processed at the Clearinghouse, but are also available from University Microfilms.

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[4] Another compilation of doctoral research related to reading listing theses completed from 1919 to 1960 is also available. The document is available through EDRS. The complete citation and ED number are as follows: _Doctoral Studies in Reading_, _1919-1960_ (ED 011 486, microfiche $0.50, hard copy $4.50).

ERIC/CRIER BASIC REFERENCE NUMBER 5

International Reading Association Conference Proceedings Reports on Elementary Reading, (ED 013 197).

Lists the important papers published in the yearly conference proceedings of the International Reading Association in Elementary Reading since 1960. The complete text of each paper is provided. The 345 papers are presented within the following categories--(1) The Objectives and Goals in Reading, (2) Reading Programs, (3) Teacher Education, (4) Reading Materials, (5) Methods and Grouping, (6) Reading Skills, (7) Early Reading Instruction, (8) Pre-School Reading, (9) Reading Readiness, (10) Reading in the Content Areas, (11) Reading and the Bilingual Child, (12) First-Grade Reading, (13) Linguistics and Reading Instruction, (14) Reading and the Disadvantaged, (15) Reading in Other Countries, and (16) The Diagnosis and Treatment of Reading Difficulty. This bibliography should be useful to practitioners and researchers interested in elementary reading. An author index is included.

This reference can be purchased in microfiche and hard copy from the ERIC Document Reproduction Service. (Microfiche $4.25 and hard copy $56.85).

The documents contained in this reference can be ordered only as a complete unit from the ERIC Document Reproduction Service. The ED number listed above must be used in ordering the document collection. The documents included from this reference will have the form of the following samples when they appear in the bibliography:

6079
Robinson, H. Alan. "Phonics Instruction--When? What? for Whom?" Reading As an Intellectual Activity. International Reading Association Conference Proceedings, 8 (1963) 224-28.

6036
Singer, Harry. "Substrata-Factor Theory of Reading: Theoretical Design for Teaching Reading," Challenge and Experiment in Reading. International Reading Association Conference Proceedings, 7 (1962) 226-32.

The four digit ERIC/CRIER identification number preceding each document serves to identify items from this reference. Documents from International Reading Association Conference Proceedings Reports on Elementary Reading will have numbers from 5908 to 6252 inclusive.

ERIC/CRIER BASIC REFERENCE NUMBER 6

International Reading Association Conference Proceedings Reports on Secondary Reading, (ED 012 185).

Lists the important papers on junior and senior high school reading published in the yearly conference proceedings of the Association since 1960. The complete text of each paper is provided. The papers are presented within the following categories--(1) Reading Programs, (2) Reading Personnel, (3) Methods and Grouping, (4) Developing Reading Skills, (5) Materials, (6) Reading and Content Areas, (7) Developing Interests and Tastes, (8) Linguistics and the Teaching of Reading, (9) The Library and the Reading Program, (10) Reading and the Bilingual Student, (11) Reading and the Disadvantaged, and (12) The Diagnosis and Treatment of Reading Difficulties. This bibliography should be useful to practitioners and researchers interested in secondary reading. An author index is included.

This reference can be purchased in microfiche or hard copy from the ERIC Document Reproduction Service (Microfiche $2.25 and hard copy $29.00).

The documents contained in this reference can be ordered only as a complete unit from EDRS. The ED number listed above must be used in ordering the document collection. No documents from this Basic Reference are included in the bibliography on word recognition.

ERIC/CRIER BASIC REFERENCE NUMBER 7

Published Research Literature in Reading, 1900-1949, (ED 013 970).

Presents 2,883 citations and annotations on published research literature in reading taken from the annual summaries of investigations in reading compiled on a yearly basis by the Reading Research Center of the University of Chicago. Complete bibliographic data for the journal sources used to compile the listings are given. The entries are arranged alphabetically by author in yearly segments. The bibliography covers the complete reading spectrum from preschool to college and adult years and presents research on all aspects of reading, including physiology, psychology, sociology, and the teaching of reading. Complete information on the development of the bibliography is included.

This reference can be purchased from the ERIC Document Reproduction Service in microfiche or hard copy. (Microfiche $2.00 and hard copy $24.90).

The documents reported from this reference have been added as a supplementary section to the bibliography to aid the researcher interested in earlier research on reading readiness. The documents in this reference have appeared in the published journal literature and are available in libraries which have good journal collections. The documents from this reference will have the following form when they appear in the bibliography:

1864
Dean, Charles D. "Predicting First-Grade Reading Achievement," Elementary School Journal, 39 (April 1939) 609-16.

1927
Petty, Mary Clare. "An Experimental Study of Certain Factors Influencing Reading Readiness," Journal of Educational Psychology, 30 (March 1939) 215-30.

Note that an ERIC/CRIER identification number precedes each of the above document citations. This number serves to identify documents from this reference. Documents from Published Research Literature in Reading, 1900-1949 will have numbers from 2 to 2883 inclusive.

Purpose of the Bibliography

Numerous requests are received at ERIC/CRIER for information on a variety of topics. Since each request cannot be handled individually because of the cost and time involved in custom searches of the document collection, the more frequently requested topics are given special attention by the

Clearinghouse staff. A bibliography is subsequently prepared and made available to users of the ERIC system through the ERIC Document Reproduction Service, The National Cash Register Company, 4936 Fairmont Avenue, Bethesda, Maryland 20014. Copies of the bibliography are available in microfiche (MF) or hard copy (HC).

Word Recognition Defined

It is unlikely that all persons using this bibliography will have exactly the same purpose in mind or even the same concept of what constitutes word recognition. Consequently the broadest possible definition was used in deciding whether or not documents should be included in this bibliography. The strategy for including documents was to select on a broad basis so that users of the bibliography could reject items of little special interest to them.

The ability to read is founded on a set of fundamental skills usually grouped under the heading of word recognition. Obviously, recognizing word symbols is only the first step in the complex act of reading, but one of great importance. The current controversy over "decoding" versus "meaning emphasis" in beginning reading underscores the significance attached to this topic. This bibliography contains citations and abstracts for literally dozens of documents that relate to word recognition. The broad definition offered by David H. Russell is helpful in establishing the limits that were set for selecting entries in this bibliography. Russell states:

> Even though a child knows the meaning of a word it does not follow that he can identify it the first time he is asked to read it or recognize it even after he has met it a few times on chart or in book. In addition to understanding he must have some skills in "unlocking" new or partly known words. In other words, he must develop the ability to "attack" verbal symbols so that he can pronounce them correctly and clothe them with some meaning. He must develop abilities in

> word perception which lead to automatic recognition of words previously studied, and also in the ways of working out unfamiliar or partly known words.
>
> ...[The] methods of attack may be summarized in three overlapping categories:

Predominantly Visual Clues	1. Picture aids
	2. Sight words
	3. General pattern or configuration
	4. Peculiarities in appearance
	5. Familiar parts
Emphasis on Meaning	6. Context clues
	7. Compounds of known parts
Mainly Analytical Clues	8. Phonetic analysis
	9. Structural analysis
	10. Dictionary aids to pronunciation

> This list of ten methods suggests that word recognition abilities may be complex. It shows, moreover, that a skillful reader, even by the second or third grade, has several strings to his bow--he does not rely exclusively on one method of attack for all kinds of words.[5]

Documents selected on the basis of the above description range from those that treat sight words to those that discuss innovative teaching orthographies.

Updating the Bibliography

Any bibliography quickly becomes dated. Therefore, additional searching on word recognition will be necessary in order to include recent documents not listed herein. Users are encouraged to search the usual abstracting and indexing tools such as *Education Index*, *Sociological Abstracts*, *Psychological Abstracts*, and *Current Index to Journals in Education* to gather recent published literature. Current issues of *Dissertation Abstracts* will alert the user to appropriate doctoral dissertations. *Research in Education*[6] is the best possible source of new USOE reports. IRA Conference Proceedings are usually available in a local library and occasionally in Research in Education.

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[5] Russell, David H. *Children Learn to Read*. (New York: Blaisdell Publishing Company, 1961) p. 294.

[6] Subscriptions are available from: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, for $21.00 a year, domestic mailing and $26.75, foreign mailing.

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Part I

Recent Information on Word Recognition, 1950 Onward

3589
Ace, P. W. "A Remedial Teaching Scheme: Introducing a New Reading Method," British Journal of Educational Psychology, 26 (November 1956) 191-93.

An education project was conducted in England with selected 8-year-olds who were 2 years retarded in reading. Two methods were used: a mixed look-say, sentence and phonic method, and the experimental Moxon method, which is described as a visual phonic method in which the child has to do everything himself. This approach was supplemented by competitive word games. Although the groups were not randomly selected nor matched in pairs, they were closely matched for initial reading age and were comparable in socioeconomic background and mean IQ. Gains in reading age were based upon 117 sessions, with a mean significant difference in favor of the Moxon group. The investigators anticipate similar results for a future expanded project.

6257
Ames, W. S. "The Development of a Classification Scheme of Contextual Aids," Reading Research Quarterly, 2 (Fall 1966) 57-82.

The verbal responses of 20 doctoral students in education were used to determine the types of contextual aids used in deriving meanings and to determine whether these contextual aids could be classified. Twenty articles were chosen randomly from recent issues of The Saturday Evening Post and the Reader's Digest. Throughout each article, every fiftieth word which was either a noun, a verb, an adjective, or an adverb, was substituted with a simulated word not found in the English language. Word length and inflectional endings were kept intact so as not to change the context. Each subject read one article and, after introspection, described the contextual aids used in deriving meanings of the simulated words. Of 556 contextual situations, 334 were judged accurate. These were analyzed, and the context in which the simulated word appeared was described and used as the basis for the classification scheme. Each of 14 categories developed from the data is described and illustrated. The study indicates that contextual aids used by readers in deriving meanings of unfamiliar words can be classified. Tables and references are given.

5355
Ames, Wilbur Stanley. A Study of the Process by Which Readers Determine Word Meaning through the Use of Verbal Context. 180p. (Ed.D., University of Missouri, 1965) Dissertation Abstracts, 26, No. 11, 6539-40. Order No. 65-14,463, microfilm $3.00, xerography $8.20 from University Microfilms.

2/3

The purpose of the study was to determine from the verbal responses of readers the types of contextual aids that served as clues to the meanings that might be attached to simulated words and to classify these contextual aids on the basis of the elements of the verbal context that had been utilized; to determine to what extent the use of contextual aids could be considered a reliable means of deriving the meanings of simulated words; and to determine to what extent the use of contextual aids was related to the form classes of simulated words. The introspective method of investigation was employed to study the thought processes of advanced graduate students who had been directed to use contextual aids to determine the meanings of simulated words constructed by the investigator. An analysis of the readers' responses to 334 contextual situations yielded a classification scheme having substantial reliability. It was concluded that the use of verbal context aids appears to be a useful approach to the derivation of the meaning of unfamiliar words and is conditioned to a degree by the form classes to which the words belong. The ability to comprehend a rich background of experience and a functional knowledge of linguistics appeared to be very significant factors in conditioning a reader's success in using verbal context to derive the meanings of unfamiliar words.

5367
Bailey, Mildred Hart. An Analytical Study of the Utility of Selected Phonic Generalizations for Children in Grades One through Six. 371p. (Ed.D., The University of Mississippi, 1965) Dissertation Abstracts, 26, No. 9, 5282. Order No. 65-14,623, microfilm $4.75, xerography $16.90 from University Microfilms.

The utility of phonic generalizations in reading instruction through application of recommended generalizations to a representative list of words encountered in reading by children in grades 1 through 6 was investigated. Forty-five phonic generalizations identified by Theodore Clymer were selected for the study. A composite list of 5,773 words was collected from the vocabularies of eight basal reading series textbooks, grades 1 through 6, published in the United States since 1960. Computers were utilized for the identification of all words included in the composite word list to which each of the 45 selected generalizations applied. Conformations and exceptions to each generalization were determined according to the 1961 edition of the "Webster's New Collegiate Dictionary," and percentage of utility was computed by dividing the total number of conformations identified by the total number of incidents investigated for each generalization. The following six phonic generalizations had a high percentage of utility: "c" and "h" next to each other; "c" followed by "e" or "i;" "c" followed by "o" or "a;" two of the same consonants side by side; two syllable words that end in a consonant followed by "y;" and words that end in "le." A low percentage of utility was found in the following: two vowels side by side; the phonogram "ie;" "a" followed by "w;" "e" followed by "w;" the sound of "y" when a vowel; the sound of "a" when followed by "l," "w," and "y;" and when "y" or "ey" are the last syllable of a word.

6717
Balmuth, Miriam. *The Relationship between Phoneme Blending of Nonsense Syllables and Silent Reading Achievement among Elementary School Children*. 155p. (Ph.D., New York University, 1966) *Dissertation Abstracts*, 27, No. 4, 943-A. Order No. 66-9453, microfilm $3.00, xerography $7.20 from University Microfilms.

Three hypotheses regarding phoneme blending of nonsense syllables and silent reading achievement were examined: (1) a positive relation between phoneme blending of nonsense syllables and silent reading achievement exists for boys; (2) the same positive relation exists for girls; (3) this relationship is similar in boys and girls. An original test entitled "Experimental Test of Phoneme Blending" was administered to 252 boys and girls attending grades 1 through 6. The Metropolitan Achievement Test for silent reading was also administered, and all subjects were checked for normal hearing. Age and ethnic origin were considered in relationship to phoneme blending of nonsense syllables. A positive relationship between phoneme blending of nonsense syllables and silent reading achievement among elementary school children was found. Sex did not influence the relationship, but older children were better blenders than younger children. New York City children of European extraction were better blenders than New York City children of Negro or Latin American origins.

6718
Barbar, Larry W. *A Practical Study of Vocabulary Instruction*. 105p. (Ph.D., Indiana University, 1967) *Dissertation Abstracts*, 28, No. 11, 4473-A. Order No. 68-7206, microfilm $3.00, xerography $5.20 from University Microfilms.

The purpose of this study was to determine the hierarchal ordering of four response techniques in teaching a basic sight recognition vocabulary. The four responses were (1) reinforcement for a correct response and correction for an incorrect response, (2) reinforcement for a correct answer only, (3) correction for an incorrect response, and (4) neither reinforcement nor correction. The effectiveness of teaching a static word list was compared with substituting new words for learned words in the list. The statistical design was a 2x4 analysis of variance. The procedure employed a pretest, training test, post-test (short-term retention), retention test (long-term retention), and a transfer test. Subjects were 128 first graders. The results indicated a significant difference on the post-test for correction only treatment.

3811
Bear, David E. "Phonics for First Grade: A Comparison of Two Methods," Elementary School Journal, 59 (April 1959) 394-402.

Two methods of first-grade phonics instruction were compared. Fourteen classrooms in the public schools of Alton, Illinois, were divided into control and experimental groups of seven classes each. The two groups were matched on nine variables, and the t-test was used to determine the significance of the differences between the means. The experimental group was taught phonics by a synthetic method, and the control group was taught by an analytic, or whole-word, phonic method. In both the experimental and the control groups, the basal reading program was followed. In the control group phonics instruction was given according to plans and instructions in the teachers' guide for the basal readers. In the experimental group phonics instruction was given from a phonics reader during a special period, and phonics material in manuals and workbooks was eliminated. Achievement tests were given in January and May. The January tests showed the two methods to be equally effective, but the May tests showed the synthetic phonics method to produce significantly higher reading achievement. However, gains greater than anticipated by the national norms were shown by both groups. The history and development of phonics instruction are summarized. Tables and references are included.

3297
Bedell, Ralph and Nelson, Eloise Schott. "Word Attack as a Factor in Reading Achievement in the Elementary School," Educational and Psychological Measurements, 14 (Spring 1954) 168-75.

The effect one method of teaching word attack had upon the reading achievement of elementary school children was studied. The subjects were regularly enrolled pupils of the middle school of the National Cathedral School for Girls, Washington, D.C. They were of superior intellectual ability and of high socioeconomic level. The class populations were 18 in the fourth grade, 20 in the fifth grade, and 22 in the sixth grade. Each grade was divided equally into experimental and control groups. In addition to regular classroom activities, the experimental group in each grade received 30 minutes of word-attack-skill instruction per day for a total of 15 days. The word-attack-skill exercises were specially designed by the experimenter so that the pupils could work individually and at their own rate with a minimum of assistance. Pupils corrected their own papers and wrote self-evaluations of learning achievements for each exercise. A test-retest design was employed, using The Diagnostic Reading Tests, Survey Section--Lower Level (Grades 4-6). Net changes in total scores received by the combined grades on the pretest and post-test were found to be significant at the .05 level. Implications for education are given along with a table and references.

6273
Bennett, L. M. and Clodfelter, Cherie. "A Study of the Integration of an Earth Science Unit within the Reading Program of a Second Grade by Utilizing the Word Analysis Approach," School Science and Mathematics, 66 (November 1966) 729-36.

The formulation and evaluation of a new subject matter unit is reported. Nine earth science concepts were selected for study by 174 second graders in six classrooms. The traditional method and experimental methods 1 and 2 are defined for the control and experimental groups. A word analysis technique of instruction was developed by the chief researcher and used with the new resource unit of study. A chart including the technical vocabulary was given to each participating teacher, and pretests and post-tests on vocabulary and comprehension were administered to the three groups. Interaction between methods, past achievement, and improved learning were significant at the .005 level of significance. The word analysis approach proved to be applicable and as good or better than the traditional method for second-grade pupils. References are included.

Benson, Jean Power. Fifth Grade Students' Knowledge of Certain Word Analysis Skills and Their Ability to Transfer This Knowledge into Functional Reading Situations. 136p. (Ed.D., Colorado State College, 1968) Dissertation Abstracts, 29, No. 4, 1031-A. Order No. 68-14, 716, microfilm $3.00, xerography $6.60 from University Microfilms.

The ability of fifth graders to apply certain word analysis skills in their reading was studied with particular attention to the pronunciation of unknown or nonsense words. Among the eight steps used in the analysis were the administration of the McCullough Word Analysis Tests to all fifth-grade students of the Greeley public school system in Colorado; the development of a sight word test; the development of a word identification test, using, under varying visual circumstances, 20 words not in the children's recognition vocabularies; and the statistical correlation of the McCullough

Word Analysis Tests with the whole-word-in-context portion of the word identification test. Significant relationships between word analysis and the pronunciation of unknown or nonsense words were found. The degree of word analysis skill transfer from the knowledge level to the application level was dependent upon the complexity of the application level.

3597
Betts, Emmett Albert. "Phonics: Practical Considerations Based on Research," Elementary English, 33 (October 1956) 357-71.

Research investigations related to phonics as an essential element in learning to read are surveyed. The historical development of phonics from 1534 to the present day is traced. The discussion is limited to phonics in reading rather than in listening, speaking, or spelling. Emphasis is placed upon the broad concept of phonics and its place in beginning reading. Several points of view toward the importance of phonics are discussed. The need for experimental studies in the area of methodology is noted. A bibliography of 199 items is included.

5975
Betts, Emmett Albert. "The Place of Basic Reading Instruction," New Frontiers in Reading. International Reading Association Conference Proceedings, 5 (1960) 144-49.

In relation to a total curriculum, basic reading instruction involves systematic teaching of concepts and skills, beginning where the child is and helping him to mature his abilities and interests. Systematic reading instruction implies a sequential development from one skill to another in the areas of reading, speaking, listening, and writing. Curricula should be planned to integrate skills in this sequence, and teachers should plan optimum learning conditions by careful and consistent evaluation of children's needs, abilities, and interests.

3933
Bloomer, Richard H. "An Investigation of an Experimental First Grade Phonics Program," Journal of Educational Research, 53 (January 1960) 188-93.

A modified formal phonic method was used as initial training for first graders. The technique restricted words learned by the pupils to those which were consistently phonetic, and each letter or combination of letters was presented systematically. Presentation sequence was planned so that succeeding letters were dissimilar in sound and shape. Words were chosen on the basis of length and phonetic complexity rather than frequency of use. Follow-up practice emphasized meaning and word analysis. A 16-week reading readiness program for the experimental group of 32 children was followed by an 8-week basal series program. The control group of 30 pupils followed a regular basal reading program for the entire year. Each group spent approximately 60 minutes per day in actual reading activities. Pretests and post-tests for readiness and achievement were used. Results indicated significant differences favoring the experimental group's performance in word recognition, sentence reading, and uniformity of skills; differences for paragraph reading were not significant. The experimental group completed the spelling workbook in 2 weeks; the control group required 16 weeks to cover the material. The experimental method seems to indicate that formal phonetic training given prior to the teaching of reading may produce superior results. References are listed.

4188
Bloomer, Richard H. "Connotative Meaning and the Reading and Spelling Difficulty of Words," Journal of Educational Research, 55 (November 1961) 107-12.

The relationship between the emotional intensity and emotional tone of words and the spelling and reading difficulty of these words was examined. One hundred and forty-nine words, which also appeared in the Gates "Spelling Difficulties in 3,876 Words," were randomly selected from "The New Iowa Spelling Scale" by Greene. The emotional tone of a word was used as a measure of the positiveness or negativeness of its meaning. Forty-five college juniors marked whether they felt the words were positive or negative. The emotional intensity of a word was a measure of the stimulus strength of the meaning. Forty-seven students judged whether they felt the words were strong or weak. The length of a word and the frequency of its occurrence were also considered. There was no relationship between emotional tone and spelling difficulty. There was a positive relationship between the grade level at which 50 percent of the words were spelled and intensity. There was a tendency for intense words to be slightly more difficult to learn to spell than nonsense words. References are given.

3697
Bolling, Rexford W. "An Analysis of 1,392 Words That Retarded Readers Could Not Identify in a Silent Reading Activity," Journal of Educational Research, 51 (February 1958) 453-58.

A comparison was made of elements in words which offered difficulty to a group of retarded readers, with common word elements at their chronological reading levels. Thirty-one children, from grades 4 to 6 in a remedial reading class in California were asked to write words they did not know while reading silently. The class met 40 minutes per session twice a week for 7 weeks. The Readers Digest, Children's Edition, for grades 4, 5, and 6, was analyzed by noting the number of suffixes per 100 words. An additional standard was used. The average number of pages for each letter in "Webster's Collegiate Dictionary" was counted, and the percentages of the various alphabetical letter beginnings were found. A percentage distribution according to alphabetical beginnings and the number of suffixes was tabulated, and the number of syllables were analyzed for the number of words tabulated. Names were eliminated. Correlation, percentage, and raw scores were used to analyze the data. The beginning letters "a," "e," "c," and "p" offered difficulty, as did suffixes and multisyllabic words. There was a drop in the frequency of asking words as a child became better able to read them; however, no relationship was found between the number of words a child asked for and his gain on the test. Other conclusions, tables, and one reference are included.

6054
Botel, Morton. "Strategies for Teaching Sound-Letter Relationships," Vistas in Reading. International Reading Association Conference Proceedings, 11, Part 1 (1966) 156-59.

The number of alternative methods of teaching phonics or word attack prompted the suggestion of guidelines for developing or evaluating programs for teaching sound-letter relationships. Five standards are suggested. (1) The program must provide linguistically sound content and structure. (2) It must provide for self-discovery by the pupil. (3) It must provide multisensory experiences, including touch and movement. (4) It must provide pupils with opportunities for the application of skills in many settings. (5) It must provide opportunities for each pupil to work at his own level and rate. Each standard is discussed as necessary to the efficient and effective teaching of sound-letter relationships. References are included.

Breniman, Emery Richard. Visual Discrimination Learning and Retention in Institutionalized Educable Mentally Retarded Children. 144p. (Ed.D., The Pennsylvania State University, 1967) Dissertation Abstracts, 29, No. 3, 810-A. Order No. 68-11,969, microfilm $3.00, xerography $6.80 from University Microfilms.

Visual discrimination learning and retention of institutionalized, educable mentally retarded (EMR) children, trained to recognize consonant-vowel-consonant (CVC) trigrams in a paired-associate task, was studied.

The vowels were colored to facilitate discriminating from other letters. Two samples of 45 EMR's each from two different institutions were randomly assigned to one of three treatment groups, differing only in the color of the vowels (red, blue, or black). The data analysis utilized the Lindquist (1953) Type III design, as well as the Scheffe and Tukey procedures. A comparison with Adair's (1966) study was made by t-ratio analysis. The results of this comparison supported the theory that discrimination increases with increased dissimilarity of cues. Significant retention was implied from the decreased number of trials necessary during the relearning period. The introduction of color produced no significant effects.

6744
Brown, Sandra Senne. An Investigation of the Relationship between a Knowledge of Letter Names and Sounds and the Mastery of an Initial Sight Vocabulary. 82p. (Ph.D., The University of Connecticut, 1966) Dissertation Abstracts, No. 10, 3358-A. Order No. 67-4530, microfilm $3.00, xerography $4.40 from University Microfilms.

The relationship of the knowledge of consonant letter names and sounds to the learning of an initial sight vocabulary composed of meaningful words beginning with these sounds was investigated. Two preliminary treatments were used to select kindergarten students as subjects. Treatment I consisted of systematic instruction for a 5-week period in the visual and auditory recognition of five consonant letters: m, b, c, t, and r. Treatment II consisted of the same type of instruction using p, n, f, g, and l. At the end of the period, pupils who had evidenced through testing that they had acquired auditory and visual knowledge of at least four letters to which they had been exposed and not more than one letter to which they had not been exposed were chosen as subjects. Subjects were exposed in small groups to a 20-minute learning session in which they were taught meaningful words beginning with the 10 letters used in the treatments. They were tested for immediate recall 1 hour later and for delayed recall the following day. The number of words recalled by subjects when the initial consonant and letter sound names were known was compared with the number of words recalled when the initial consonant and letter names were not known. Conclusions were that a knowledge of consonant letter names and sounds facilitated delayed recall of words learned through a sight method but did not significantly aid in immediate recall and that this knowledge was of more help to males than to females.

3303
Bryan, Fred E. "How Large Are Children's Vocabularies?" Elementary School Journal, 54 (December 1953) 210-16.

In order to obtain a more accurate estimate of the absolute size of children's vocabularies in grades 2 through 6, tests were administered in different geographical locations, at different seasons of the year, and with common areas of experience used as response stimuli. A test booklet containing three types of tests was constructed. The first was a free-association test, the second a stimulus-response test, and the third the multiple-choice English Recognition Vocabulary Test by Seashore and Eckerson. It was found that the children in this study were able to produce 10,036 different words. The addition of the stimulus-response situation almost doubled the number found by the free-association method. The median size of vocabulary as estimated by the multiple-choice test ranged from 4,080 words at grade 2 to 25,573 words at grade 6. Eleven references are included.

6055
Brzeinski, Joseph E. "When Should Phonics Instruction Begin?" _Reading as an Intellectual Activity_. International Reading Association Conference Proceedings, 8 (1963) 228-32.

Results of a 2-year study of phonics and reading readiness are discussed. Instructional methods consisted of using contextual or meaning clues and of teaching letter names and sounds to kindergarten children. The children so instructed were found to progress successfully in first-grade reading programs. It was concluded that kindergarten curricula should include readiness programs which permit children to experience growth in reading as well as in other areas.

6673
Burmeister, Lou E. _An Evaluation of the Inductive and Deductive Group Approaches to Teaching Selected Word Analysis Generalizations to Disabled Readers in Eighth and Ninth Grades_. 51p. (BR-5-0216-TR-12, OEC-5-10-154, Wisconsin University, Madison, 1966) ED 010 514, microfiche $0.25, hard copy $2.55 from EDRS/NCR.

The relative effectiveness of inductive and deductive approaches to the instruction of word analysis tasks was studied. A number of phonic and structural analysis generalizations, applied to the pronunciation of words above the primary level in difficulty, were presented to eighth and ninth graders of average mental ability but who were weak in word analysis. Results indicated that both experimental groups, inductive and deductive, differed on total mean scores from a control group. The experimental groups were superior in oral reading but not in silent reading.

5400
Catteral, Calvin Dennis. The Effects of Pretraining in Auditory and Visual Discrimination on Texting in First Grade Boys. 99p. (Ph.D., University of Southern California, 1964) Dissertation Abstracts, 25, No. 6, 3387-A. Order No. 64-13490, microfilm $2.75, xerography $5.00 from University Microfilms.

The effect of pretraining in auditory and visual discrimination on texting (i.e., reading aloud) was studied. The subjects were 120 first-grade boys with average ability (IQ 85-115) and normal first-grade age. The subjects were randomly assigned to eight experimental groups. The interaction between the auditory variables was analyzed. The author states: (1) Visual pretraining on configuration cues without auditory training produced the greatest amount of texting transfer for this population (.05). (2) For a combined auditory-visual approach, training in vowel letter-names and letter-sounds produced more correct texting responses than did similar training on configurational cues (.01). (3) Texting interference was associated with auditory training on configurational cues (.01), the value of which appeared to be primarily visual. (4) Although the discrimination task did not appear to facilitate texting, significant learning (.001) did take place in all groups. (5) The number of correct texting responses did not, as was anticipated, vary with word difficulty. There was no consistent relationship between the number of correct texting responses and IQ. A very significant difference in texting was found within subjects (.01) despite appropriate experimental control.

6057
Catterson, Jane. "Inductive Versus Deductive Methods in Teaching Word-Attack Skills," Challenge and Experiment in Reading. International Reading Association Conference Proceedings, 7 (1962) 121-23.

Results of a study evaluating the relative merits of inductive and deductive methods of teaching word attack skills to intermediate-grade students are reported. The 10 deductive classes were given instruction in workbook type exercises following rules of phonics, syllabication, roots, prefixes, and suffixes, with little practice time. The 10 inductive classes were given Speidel-Spencer type exercises in which the children had to solve words by placing them in the three categories given for the exercise and by synthesizing them into meaningful wholes. Ten classes acted as a control group, receiving no specific instruction. Both experimental groups made gains in pronunciation, but neither method was found significantly superior. The conclusions were reached that practice in word attack skills is helpful to intermediate children and that both inductive and deductive methods and practices are effective.

6220
Chall, Jeanne. "How They Learn and Why They Fail," Improvement of Reading through Classroom Practice. International Reading Association Conference Proceedings, 9 (1964) 147-48.

The question of a sight (meaning) approach versus a phonic (phoneme-grapheme) approach to beginning reading is discussed. Reported research studies indicate that both methods produce failures and weaknesses in word recognition and analysis (phonics). Suggested remedial procedures include word recognition and analysis, adding motor, speech, and auditory aids as needed. It is noted that poor readers, when they learn word recognition and analysis, tend to pay more attention to content than to methods and that severe reading difficulty stems from a combination of teaching approach and deficiencies within the child. Therefore, initial methods should emphasize the association of spoken words and their written equivalents, with instruction paced to the individual child. References are included.

3704
Chall, Jeanne S. "The Roswell-Chall Diagnostic Reading Test of Word Analysis Skills: Evidence of Reliability and Validity," Reading Teacher, 11 (February 1958) 179-83.

The statistical evidence of the reliability and validity of the Roswell-Chall Diagnostic Reading Test of Word Analysis Skills, gathered since 1954, is presented. The test is described as appropriate for pupils of any grade or age who show deficiency in word recognition skills, particularly below the seventh-grade level. Scoring is qualitative, and results indicate specific word analysis needs. Statistical evidence was based upon results from 52 children enrolled in the Remedial Reading Service at the City College of New York. Reading ability ranged from first through the eighth grade, with an average of 4.3. Grade placement ranged from third through the eleventh grades. Reliability coefficients indicated that the total test was consistent and that the two forms were equivalent. Validity evidence was based upon three different school populations involving second graders, fifth graders, and the clinic population. Validity coefficients indicated a significant relationship between the word analysis skills measured by the Roswell-Chall Test and other fundamental aspects of reading and spelling, with slightly higher consistency for normally progressing pupils than for reading disability cases. Finally, the major value of the test is stated as its qualitative evaluation of the results. Tables and references are included.

6059
Chambers, J. Richard. "Extending the Sight Vocabulary," Reading and Inquiry. International Reading Association Conference Proceedings, 10 (1965) 29-30.

Word recognition is a reader's ability to recognize a word he knows (sight vocabulary), to pronounce it, and to know its meaning in context. Instruction in word recognition, then, must emphasize meaning and must include context clues, structural analysis, and phonics. This training becomes important when, at intermediate-grade levels, children are expected to learn many content words quickly and need to become self-sufficient in vocabulary needs.

5985
Childs, Sally. "Sound Reading," New Frontiers in Reading. International Reading Association Conference Proceedings, 5 (1960) 101-05.

The high incidence of reading problems in high school students calls for an examination of methods used in teaching reading. Children who are just beginning to read or children who suffer from reading difficulties may have trouble performing language tasks in general, and recent studies indicate that probably the most effective way to deal with specific language difficulty problems is to begin reading instruction with letters and sounds. When certain basic phonic principles are established, children can progress to words which contain more discrete applications of phonics or which bear no relation to its elements. Teachers must be able to see and to hear sounds separately and together in order to provide the firm foundation needed to be facile in an alphabetic-phonetic language.

6761
Chirhart, Virginia J. A Study of the Word Recognition Skills and Perceptual Abilities of Fourth-Grade Pupils. 227p. (Ph.D., University of Minnesota, 1966) Dissertation Abstracts, 27, No. 11, 3608-A. Order No. 67-6, microfilm $3.00, xerography $10.35 from University Microfilms.

The relationship between certain word recognition skills and visual perception skills in fourth-grade pupils was investigated. Seven hundred and sixty-one pupils were administered the Silent Reading Diagnostic Test for word recognition skills, the Pintner General Ability Tests, four subtests of the Kuhlmann Finch Tests, two SRA subtests, and a figure-ground test by Clymer, all measuring visual perception skills. The results showed that the perceptual task requiring the subjects to complete a pattern correlated most highly with the achievement of word recognition skills for both sexes, while the spatial task had the lowest correlation. Though the results seemed to indicate that certain word recognition skills were not necessarily characterized by inferior or superior perceptual skills, a strong enough relation was found for this to be recognized beyond the primary levels.

4833
Cleland, Donald L. and Miller, Harry B. "Instruction in Phonics and Success in Beginning Reading," Elementary School Journal, 65 (February 1965) 278-82.

Students from two western Pennsylvania cities were used to study the question of whether a greater emphasis on phonics in beginning reading instruction would produce better readers by the end of first grade. Equal numbers of boys and girls comprised both the experimental group and the control group, with 112 pupils in each group. The study indicated that neither the phonics approach nor the sight method of teaching beginning reading showed superiority to the other at the end of first grade. A list of references is included.

6060
Clymer, Theodore. "The Utility of Phonic Generalization in the Primary Grades," Changing Concepts of Reading Instruction. International Reading Association Conference Proceedings, 6 (1961) 157-59.

Conclusions reached in a study of the frequency of certain types of vowel constructions are reported. It was found that generalizations covering vowel sounds apply to various sized groups of words but are not universally applicable, that generalizations are useful only after a student has pronounced the word, and that there are perhaps 13 vowel generalizations which are successful.

6222
Cooper, J. Louis. "An Adaptation of the Fernald-Keller Approach to Teaching Non-Readers," Reading and Inquiry. International Reading Association Conference Proceedings, 10 (1965) 361-63.

The visual, auditory, kinesthetic, and tactile (VAKT) approach to teaching nonreaders and an adaptation of it are described and compared. Major differences are (1) the method of determining the words to be taught, (2) the introduction of book reading at the very outset of instruction, (3) the use of intensive training in visual and auditory discrimination to parallel the early Fernald stages, and (4) the replacement of the Fernald stages with a systematic program of word analysis. While it may be necessary to resort to VAKT to help nonreaders acquire an initial vocabulary, the adopted technique will change the child's mode of learning from VAKT to VAK to VA and finally to application of word analysis skills in order to acquire new vocabulary.

5411
Corcoran, Clare Mary. Inductive Vs. Deductive Methods of Teaching Word Analysis in Grade Three. 249p. (Ed.D., Boston University School of Education, 1961) Dissertation Abstracts, 22, No. 12, 4290-91. Order No. 61-3362, microfilm $3.25, xerography $11.25 from University Microfilms.

One hundred and ninety-seven children in seven third-grade classrooms used the inductive method to solve 720 new words and classified them according to meaning, and 195 children in seven third-grade classrooms solved the same words according to rules. A control group of 244 children in eight classrooms followed the word analysis program of the basal reading system. All lessons were self-directing and self-correcting and were worked by students in pairs. The word study program ran for 6 weeks in schools selected from two comparable communities of 20,000 population. Pretests and post-tests included the Metropolitan Achievement Test, McKee Phonetic Inventory, Durrell Visual Discrimination Test, Gates Word Pronunciation Test, a rules test built for the study, and the Otis Alpha Short Form Intelligence Test. No significant differences were found between the two methods and the control group on word pronunciation, phonics, visual discrimination, rules, reading achievement, vocabulary, and spelling. All groups made significant gains in phonics, visual discrimination, rules, and spelling. Children of 110 and above in intelligence made significant gains on phonics, visual discrimination, rules, and spelling. The inductive method produced significant reading achievement gains. Children of 90-110 intelligence made significant phonics gains. The inductive method and the control group showed significant visual discrimination gains. The deductive method and the control group showed significant gains in rules and the control group in spelling. Significant differences favoring children with 110 and above intelligence were present at pretesting and post-testing on word pronunciation, phonics, visual discrimination, rules, reading, vocabulary, and spelling.

6669
Crockett, Walter H. Effects of Age, Social Status, Sex, and Race upon the Understanding of Word Meanings Independent of Sentence Context. 37p. (HRD-266-65, BR-5-0697, OEG-5-85-081, Clark University, Worcester, Massachusetts, 1966) Ed 010 381, microfiche $0.25, hard copy $1.85 from EDRS/NCR.

Individual differences which affect the ability to acquire word understanding were investigated. Groups of eight children were administered the "Word Context Test." Twelve different groups were formed by varying grade level (third versus sixth), sex, and socioeconomic status (white middle class, Negro lower status, and white lower status). Middle-class children showed a significantly higher level of verbal output than their low-status counterparts. This was consistent with the different emphasis placed on verbalization by different social strata. In the adequacy of the solutions that were offered and the level of cognitive processes used, sixth graders performed at a consistently higher level than third graders. Contrary to hypothesis, there were no significant differences between groups from different social strata on any of the measures that were scored. There was a consistent sex difference in the use of word-sentence fusion as a signification process, with girls showing consistently more such responses than boys.

3611
Daniels, J. C. and Diack, H. Progress in Reading: A Comparative Study of Success and Error in Children Taught by Different Methods. (Nottingham, England: University of Nottingham, Institute of Education, 1956)

An investigation is reported in which two main groups of children who had not learned to read were taught by two methods of reading instruction for 1 year. The report has 10 parts, including the word recognition tests, a comparison of the test scores of Groups A and B, analysis of errors, and categories of reading error. The subjects were 7- and 8-year-old nonreaders. Group A had 44 children taught in one class by the phonic word method as developed by the authors and described in detail. Group B had three subgroups of 25, 20, and 10 children who were taught by a mixed methods approach (essentially whole words with incidental phonics). Results were measured by specially constructed tests, four single-word recognition and two sentence reading, which the children read aloud. Group A was significantly superior in word recognition. An analysis of errors, made possible by tape recording the tests, is included. Tables and a bibliography are given.

3939
Daniels, J. C. and Diack, Hunter. "The Phonic Word Method," The Reading Teacher, 13 (October 1959) 14-21.

Sixteen articles in the literature dealing with the phonic word method are surveyed. The discussion also considers Gestalt psychology and whole words and the Flesch controversy. A description is given of two experiments, conducted in four junior schools and five infant schools, which compared the efficacy of the phonic word method with that of other reading instruction methods widely practiced in England. Tables and references are included.

5422
Deasy, John Peter. Word Analysis Skills in the Intermediate Grades. 265p. (Ed.D., Boston University School of Education, 1960) Dissertation Abstracts, 21, No. 7, 1868-69-A. L. C. Card No. Mic 60-5584, microfilm $3.45, xerography $11.95 from University Microfilms.

A survey was made of the workbooks of six basic reader series and four supplementary phonics series to determine the word analysis skills emphasized in the intermediate grades. Nine word-analysis tests were constructed including Syllabication, Accent, Root Words and Compound Words, Prefixes and Suffixes, Vowel Sounds and Diacritical Marks to measure the skills found in the workbooks. A Visual Test, Auditory Test, and a test of Homophones were constructed to test related skills. Standardized tests included the Gates Reading Survey, Spelling List of the Stanford Achievement Tests, Beta Test from Otis Intelligence Series, the Boston University Word Pronunciation Test, and a dictionary spelling test. Subjects were 298 fourth, fifth, and sixth graders. The data were analyzed to secure measures of central tendency, variation, and intercorrelations for the tests. Intermediate word analysis skills defined were consonant sound, vowel sounds and principles, root words, compounds and endings, prefixes and suffixes, syllabication, accent, diacritical marks and dictionary spellings, and visual discrimination of word patterns. Twenty-six of 27 word analysis skills were significantly related to word pronunciation while reading comprehension was held constant. Twenty-five of 27 word analysis skills were significantly related to spelling while reading comprehension was held constant. Holding reading comprehension constant, word analysis skills tended to relate more closely to pronunciation and spelling than to reading vocabulary. Ability to combine prefixes and suffixes with root words in a meaningful context appeared to be the only exception to this trend.

3396
DeLucia, Joseph J. and Stagner, Ross. "Emotional vs. Frequency Factors in Word-Recognition Time and Association Time," Journal of Personality, 22 (March 1954) 299-309.

This study was designed to test four null hypotheses. (1) For grouped subjects, mean association time for visually presented words is not significantly related to mean visual-recognition time. (2) When the common factor of recognition time is eliminated from association time, there will be no significant relationship between recognition time and the remaining association time. (3) The relative frequency of usage of the stimuli words is not significantly related to either recognition or association time. (4) When frequency of usage is held constant, recognition time is not significantly related to association time. The subjects, 20 members of the National Guard in Danville, Illinois, who volunteered for the experiment, were tested individually for recognition time and association time. At least 48 hours separated the two tests, which used a tachistoscope. The results indicated (1) that the recognition-association relationship was not significant by the F test, (2) that the recognition-remainder time relationship was not significant by the F test, (3) that recognition time was significantly related to frequency of usage, but that there was no significant relationship between association time and frequency of usage, and (4) that when frequency of usage was controlled, a significant relationship between recognition and association time was found. Fourteen references are included.

5425
Dirienzo, Angelo Eugene. A Comparison of Seventh and Eighth Grade Pupil Achievement in a Basal and Non-Basal Reading Program. 162p. (Ph.D., The University of Connecticut, 1964) Dissertation Abstracts, 25, No. 8, 4491-92. Order No. 65-2703, microfilm $2.75, xerography $7.60 from University Microfilms.

A comparative study of a basal and a nonbasal reading program at the seventh- and eighth-grade level was completed. The population included eight instructional groups. Two eighth- and two seventh-grade groups were assigned to each of the reading programs. All classes were pretested with the Iowa Silent Reading Test, Form AM. After one semester of instruction, all pupils were retested with the same test using Form CM. The interests of the total population were identified through the Science Research Associates Junior Inventory. Data from the Iowa Tests were analyzed statistically through the use of a Fortran Program employing the I.B.M. 1620 Computer and the I.B.M. 1622 Accounting Machine. The SRA Data and recreational reading records were evaluated by use of descriptive statistical procedures. In the summary of findings, the author states that the reading methods employed did not significantly affect the reading achievement of the population using either the basal or nonbasal program. No significant difference was found in growth of children in the six areas of reading skills measured by the Iowa Silent Reading Tests. Neither the basal nor the nonbasal program seemed to have a measurable effect upon the attitudes toward reading or on recreational reading habits.

6783
Duell, Orpha Kay. An Analysis of Prompting Procedures for Teaching a Sight Vocabulary. 72p. (Ph.D., University of Illinois, 1967) Dissertation Abstracts, 28, No. 8, 3017-A. Order No. 68-1743, microfilm $3.00, xerography $4.00 from University Microfilms.

A series of seven miniature exploratory studies and a final study were carried out with 165 kindergarteners and 10 first graders. Various prompted training sequences were used to teach a sight vocabulary of eight words. Results confirmed the hypothesis that prompted training sequences designed to force the student to notice the cue teach more successfully than do sequences which allow, but do not force, the student to notice the cue. However, as a result of inefficient S-R pairings, the kindergarteners learned, on the average, only 40 percent of the sight vocabulary under the best prompted training sequences tried in these studies.

6176
Edward, Sister Mary. "A Comparative Study of Reading Achievement at the Fourth Grade Level Under Two Methods of Instruction: Modified Linguistic and Traditional Basal," Reading and Inquiry. International Reading Association Conference Proceedings, 10 (1965) 333-37.

The effects of a modified linguistic word recognition program on reading are reported. Intermediate-grade children who had learned to read using a basal reader and the linguistic word recognition program were compared with children who had learned using only the basal reader. Results of the comparison showed that children in the experimental group were better in word recognition skills, including context, analysis, and phonics. They also had better vocabularies, comprehension, and retention. No significant difference was observed in areas of organization or appreciation. References and tables are included.

6792
Erdley, Russell Richard. Patterns of Eye Movements in Word Learning. 77p. (Ph.D., The Florida State University, 1967) Dissertation Abstracts, 28, No. 7, 2439. Order No. 68-350, microfilm $3.00, xerography $4.20 from University Microfilms.

The extent to which average readers at the second-, third-, and fourth-grade reading levels consider every letter in their attempt to learn printed words and the patterns of eye movements which accompany learning new words were studied. The subjects were within .5 of the grade placement, were between 90-110 IQ, and had been screened for normal vision. Five unknown words for each grade level were chosen, and each subject was photographed with the Reading Eye Camera as he attempted to learn the words. The interfixational movements, regressions, and return sweeps of the words were tabulated from the film record. It was concluded that there were little or no important differences in the number of interfixational movements that the children manifested during word learning from grades 2 through 4, that there was a wide range of interfixational movements from word to word, which appeared partly dependent upon the number of letters in the word, and that a high percentage of the subjects made a return sweep of the entire word in word learning.

5441
Evans, Jackie Merion. The Development of Auditory Discrimination in Third-Grade Students by Use of Tape-Recorded Materials. 84p. (Ed.D., North Texas State University, 1965) Dissertation Abstracts, 26, No. 7, 3696. Order No. 65-15,116, microfilm $3.00, xerography $4.40 from University Microfilms.

An auditory program, an adaptation of Durrell's Building Word Power, was developed for this study. The auditory program was composed of 40 segments of 15 minutes each, recorded on magnetic tape. Tape recorders were used in the third-grade program to determine whether auditory discrimination can be developed through the use of the program, the effect on spelling skills, and the effect of the auditory program on the upper and lower one-third of the experimental group. The experimental groups consisted of 118 pupils, and 115 pupils from the same two schools acted as controls for the 8-week program. Pretest and post-test data were obtained from the Rush Hughes Auditory Test, the C.I.D. Auditory Test W-22, the Gray Oral Reading Test, and the Durrell Spelling Test. Age, sex, and IQ were determined from school records. It was indicated that auditory discrimination could be improved by use of a program of tape-recorded exercises and that word recognition skills improved as auditory discrimination improved. No significant improvement was shown in spelling skills. It was found that students with poor auditory discrimination derived more benefit from the program than did those with good discrimination. Recommendations for future investigations are also included.

5445
Feldmann, Shirley Clark. *Visual Perception Skills of Children and Their Relation to Reading.* 98p. (Ph.D., Columbia University, 1961) *Dissertation Abstracts*, 22, No. 4, 1084-A. Order No. 61-3878, microfilm $2.75, xerography $5.00 from University Microfilms.

Ninety-five children from kindergarten through grade 5 were measured on intelligence, the Bender Gestalt Test, Reversals Test, the Street Gestalt Completion Test, and two reading tests to determine if visual perception skills increase with age, to explore the relationship between visual perception skills and reading, and to determine if girls show more competence in these skills than boys. Intercorrelations were made between all measures, and two factor analyses were done. Test scores indicated an increase in visual perception skills with age and higher scores for girls at some grade levels. The visual perception scores were highly related to the factor of age-experience as was intelligence. Intelligence was related to visual perception skills at lower grades. Use of reduced cues showed no consistent developmental trend nor any relation to the other measures. Writing hand showed no relation to visual perception skills. Form sequence and annotation showed a change in error type with age from complete or mixed reversals to reversal letter errors, to no errors. Reading skills showed a positive relation to the three visual perception tests and a high relation to the age-experience factor. Those visual perception scores influenced by age and experience showed a developmental trend.

3617
Figurel, J. Allen. "What Research Says about Phonics," Report of the Twelfth Annual Conference and Course on Reading, 106-24. (Pittsburgh: University of Pittsburgh, 1956).

Twenty-eight research articles concerning phonics are reviewed. The articles are grouped under four categories -- phonics vs. look-say, readiness, teaching of phonics, and child development. Conclusions and implications are listed. A 28-item bibliography is included.

6704
Ford, Boyce L. and Levin, Harry. Homographs in a Semantic Context. Studies in Oral Readings, VII. Preliminary Draft. 16p. (BR-5-1213-7, OEC-6-10-156, 1967) ED 011 956, microfiche $0.25, hard copy $0.80 from EDRS/NCR.

The effects of semantic context on the verbal reaction times of children reading homographs were studied by a comparison of the effects of word or letter cues preceding the homographs to be read. The investigator devised two experimental word lists containing homographs preceded by one word, semantically similar nonhomographs, and two control lists containing the same homographs in isolation or preceded by a meaningless consonant. The cue-homograph combinations were projected on the screen one item at a time. The time lapse between the visual presentation of the item and the verbal response of the subject was measured, and the reaction times for each of the four lists were compared. The subjects' reaction times for the experimental lists were significantly faster than for the control lists. The results indicated that the shorter verbal response times resulting from the preceding semantic cues were not the consequence of a priming effect produced by a preceding stimulus. The author concluded that a preceding stimulus must be meaningful, either grammatically or semantically, to facilitate the reading of words.

3197
Forgays, Donald G. "The Development of Differential Word Recognition," Journal of Experimental Psychology, 45 (March 1953) 165-68.

The relationship between educational grade level and recognition of words tachistoscopically exposed to the left and right peripheral fields of vision was investigated. Twenty English words of three or four letters selected from an elementary reader were presented tachistoscopically to 144 subjects. Each educational grade-level group consisted of 12 subjects, six male and six female. The educational levels sampled were school grades 2 through 10 and each of the first three college years. Analysis of variance was used to analyze the data. Words were recognized significantly more when exposed to the right of fixation. Recognition scores for words presented to the right and left of fixation overlapped for grades 2 through 7 and then diverged. The superiority of the recognition of words presented to the right of fixation was significantly related to educational grade level. A figure, a table, and references are included.

4868
Fry, Edward. "A Frequency Approach to Phonics," Elementary English, 41 (November 1964) 759-65.

The phonics rules which will be most useful to a child and which will have the widest applicability, based on the frequency approach, are discussed. A distinction is made between determining the frequency for phonics principles and determining a simple word frequency list. The rules studied are ranked according to their frequency of use, in comparison with the frequency counts of other researchers. The most unique features of these studies are (1) the relative importance of the schwa sound; (2) the small number of combinations (seven) for the long vowel digraph; (3) the importance of the R Rule and the Y Rule, including the concept that Y has a long E sound at the end of a word; and (4) the fact that there are relatively few exceptions to these rules and that none other than those mentioned are worth teaching beginning readers. Through the study several rules are invalidated, and others are confirmed. Comparative data, vowel rules, and references are given.

5123
Gagon, G. S. ''Modern Research and Word Perception," Education, 86 (April 1966) 464-72.

A review of the research on word perception is presented under seven headings: (1) word identification and recognition, (2) amount of word analysis needed, (3) structure of written English, (4) linguistics in word recognition, (5) letters and words or technique, (6) modalities used in word perception, and (7) transfer of analysis techniques. A bibliography is included.

3200
Gammon, Agnes L. "Comprehension of Words with Multiple Meanings," California Journal of Educational Research, 3 (November 1952) 228-32.

The purposes of the investigation were (1) to identify words with multiple meanings found in reading textbooks at the first-, second-, and third-grade levels; (2) to determine some of the problems children have in reading and understanding these words; and (3) to suggest techniques to aid in teaching words with multiple meanings. Three series of textbooks were selected on the basis of vocabulary range, popularity, frequency of use, author's qualifications as an educator, and the degree of ease with which the books could be read. The books were checked for words with multiple meanings. Tests were constructed which required students to check pictures with different marks to indicate meaning. The test for grade 1 contained 24 words with 66 meanings; the grade-2 test contained 36 words with 100 meanings; the grade-3 test included 48 words with 132 meanings. No slow learning pupils were tested. Subjects were 40 first graders, 55 second graders, and 80 third graders. The range of number correct for grade 1 was 24 to 58; for grade 2, 43 to 96; and for grade 3, 51-112. References are included.

4230
Gates, Arthur I. "The Word Recognition Ability and the Reading Vocabulary of Second- and Third-Grade Children," The Reading Teacher, 15 (May 1962) 443-48.

A study of second graders' word recognition ability and reading vocabulary, designed as a follow up to a similar study of third graders, is described. Subjects were two New York City public school second-grade classes just finishing their work with the grade-2 Macmillan Readers. A 42-question multiple-choice test was administered to the subjects to determine their ability to recognize and understand 14 "old" words from the second-grade readers, 14 "new" words from the third-grade level, and 14 "new" words from the fourth-grade level. Results indicating a high level of competence among all the students are reported. It is noted that lower scores on the second-grade words were accompanied by succeedingly lower third- and fourth-grade word scores. A general discussion of vocabulary control in basal readers and a rebuttal against the arguments of two critics of current practices in the teaching of reading, Arthur S. Trace, Jr. and Charles C. Walcutt, are included. A table and references are given.

4229
Gates, Arthur I. "Vocabulary Control in Basal Reading Material," The Reading Teacher, 15 (November 1961) 81-85.

Two studies are described in which the ability of pupils to work out the recognition and meaning of words previously introduced in a basal series was compared with their ability to handle the "new" words introduced in later books in the same series. Subjects in the first study were 310 pupils near the end of grade 3 in four New York City public schools. The "Reading Puzzle," a test consisting of 40 exercises based on "old" words from the Macmillan third-grade reader and "new" words from the fourth-grade reader, was administered to the students. It was found that the third-grade students were able to recognize the "new" fourth-grade words as easily as the "old" words which they had previously studied. A second study involving 55 third graders and 47 second graders in New York City produced similar results. Word recognition skills and implications of this study for teachers and for publishers of basal series are discussed. Tables are included.

4877
Gibson, Eleanor J., Osser, Harry, and Pick, Anne D. "A Study in the Development of Grapheme-Phoneme Correspondences," Journal of Verbal Learning and Verbal Behavior, 2 (August 1963) 142-46.

An experiment to compare children at the end of grades 1 and 3 in ability to recognize familiar three-letter words, pronounceable trigrams, and unpronounceable trigrams is described. Twenty-four subjects (six grade-1 boys, six grade-1 girls: six grade-3 boys, and six grade=3 girls) were selected at random from an area with families of higher than average educational backgrounds. Before each subject was exposed to words and trigrams tachistoscopically, he was given practice words and careful instruction. The trigrams and three-letter words appeared first in a random order (two random orders were used with positions of pronounceable and unpronounceable items exchanged). It was concluded that even though a child is presented with whole words and encouraged to associate the printed word as a whole with the spoken word, he still begins to perceive some regularities of correspondence between the printed and written terms and transfers these to the reading of unfamiliar items. This generalizing process undoubtedly promotes reading efficiency and could be facilitated by presenting material in such a way as to enhance the regularities and accelerate their incorporation. References are given.

6001
Glass, Gerald G. "The Teaching of Word Analysis Through Perceptual Conditioning," Reading and Inquiry. International Reading Association Conference Proceedings, 10, Part 3 (1965) 410-13.

The role of perceptual conditioning in word analysis seems important. When confronted with unfamiliar words, readers are more likely to sound them out than to use syllable and phonic rules as clues. This sounding out involves dividing the words into logical orthographic units, the arrangement of which is derived from previous experiences. In perceptual conditioning, then, words from a child's listening vocabulary would be presented as whole words out of context, and children would be directed to examine these words with two questions in mind: What letters make the sounds? and What sounds do the letters make? As children gain experience in dealing with letter clusters, they will become increasingly able to identify familiar phonograms which can be applied to new and unfamiliar words.

5469
Gold, Hyman. A Comparison of Two First Grade Reading Programs. 179p. (Ed.D., University of Southern California, 1964) Dissertation Abstracts, 25, No. 6, 3322-A. Order No. 64-13,498, microfilm $2.75, xerography $8.20 from University Microfilms.

A comparative study of the Basal Reading Program and the Economy Reading Program was made. One hundred pupils in grade 1 in a selected district who were taught to read by the conventional "basal approach" were matched with 100 pupils in the same school district who were taught to read by means of a program which stressed a very early emphasis upon phonetics and word attack skills. Pupils were post-tested by means of the Gilmore Oral Reading Test and the California Reading Test, Lower Primary. From the findings, the author concluded that, to the extent that all the related variables were controlled, the utilization of the Economy Reading Program does not produce results superior to those achieved by means of a basal reading program.

5472
Goldmark, Bernice. The Relation of Visual Perception, Auditory Perception and One Aspect of Conceptualization of Word Recognition. 153p. (Ed.D., University of Arizona, 1964) Dissertation Abstracts, 25, No. 1, 186-A. Order No. 64-6227, microfilm $2.75, xerography $7.20 from University Microfilms.

The relationship of visual perception, auditory perception categorization, and word recognition was studied to determine whether auditory perception has a significantly higher positive correlation with word recognition than does visual perception at the second-grade level and whether categorization, one aspect of conceptualization, has a significant positive correlation with word recognition at the same level. The population consisted of 83 children in an average socioeconomic neighborhood, reading on a second-grade level. Tests administered to the group included seven subtests of The Developmental Reading Tests by Bond, Clymer, and Hoyt; The Marianne Frostig Developmental Test of Visual Perception; The Wepman Auditory Discrimination Test; The Otis Quick-Scoring Mental Ability Test; and a specially constructed test to measure categorization. A correlation analysis of the test results was made on an I.B.M. 7072. The first hypothesis that auditory perception has a significantly higher correlation with word recognition than does visual perception at the second-grade reading level was not upheld by the correlation analysis. The second hypothesis that categorization, one aspect of conceptualization, has a significant positive correlation with word recognition, was upheld. The evidence seems to support the theory that when groups are heterogeneous and not matched or balanced in IQ, the statistical effectiveness is lessened.

5129
Goodman, K. S. "A Linguistic Study of Cues and Miscues in Reading," Elementary English, 42 (October 1965) 639-43.

A descriptive study of the oral reading of first-, second-, and third-grade children is reported. The study treated reading as a psycholinguistic process which is cued or miscued during the child's interaction with written language. The subjects were 100 children attending the same school in a Detroit industrial suburb. Every second child on an alphabetical list of all the children was included in the study. Each subject was tested individually with a word list from a story on his grade level. He was then asked to read orally the story on which his word list was based. Following this, the child retold the story as best he could. Both the reading and the retelling were taped and studied. The children in the study were able to read many words in context which they could not read from lists. Children in successive grades were increasingly efficient in using cue systems outside of words. Substitutions and regressions in a child's oral reading are discussed. Five implications for the teaching of reading are presented. A partial list of cue systems used in reading is given, and types of reading errors are summarized.

4881
Gorelick, Molly C. "The Effectiveness of Visual Form Training in a Prereading Program," Journal of Educational Research, 58 (March 1965) 315-18.

The effectiveness of training in two recommended activities related to word recognition success was investigated in order to identify learning opportunities which might be significantly related to success in word recognition. Two aspects of a prereading program were examined: (1) the effectiveness of training in the visual discrimination of abstract symbols and (2) the effectiveness of training in the discrimination of meaningful symbols as related to success in word recognition. The hypothesis tested was that there would be no significant difference in the amount of word recognition gain between experimental groups who received a visual perceptual discrimination prereading training program of either abstract or meaningful symbols and a control group which did not receive this training. These programs were administered to 69 beginning first graders in two Los Angeles City schools. Pedagogical implications of this study are (1) learning opportunities provided for kindergarten children should be reexamined; (2) the design of reading readiness programs which include opportunities for children to practice visual word discrimination should be seriously considered; and (3) the feasibility of employing in the classroom the simple autoinstructional device used in this study should be investigated. Definition of terms, general procedures, tables, references, and results are included.

6066
Grimes, Jesse W. "A Study of the Meaning of Phonics Skill in Its Relationship to Intelligence, Reading, and School Success," Changing Concepts of Reading Instruction. International Reading Association Conference Proceedings, 6 (1961) 130-33.

Results of a study testing the correlations between phonics skill and intelligence, reading skill, and school achievement are reported. Phonics skill correlated +.55 with total achievement (measured by Stanford Achievement Tests, the Gilmore Oral Reading Test, and the California Reading Test). It was concluded that phonics skill seems to predict reading success, that children possess personality traits which are not measured by intelligence tests but which influence school success, and that there is no indication that all children should be given formal phonics instruction in grade 1. Further study of the question of when and how much phonics should be taught to which children is recommended.

5137
Gurren, Louise and Hughes, Ann. "The Cleland-Miller Study on Phonics," Elementary School Journal, 66 (November 1965) 87-91.

The raw data of the Cleland-Miller study on phonics was reanalyzed. First graders in two Pennsylvania communities received instruction with the Phonetic Keys and the Scott Foresman readers or with only the Scott Foresman readers. The Kuhlmann-Anderson Intelligence Test was administered to the first graders; 112 children from each group were chosen by random selection of 14 boys and 14 girls from each of the four quarters of the distribution of intelligence quotients. Alternate forms of the Metropolitan Achievement Test and the spelling section of the Stanford Achievement Test were administered to the selected groups in February and May. Means, standard deviations, standard errors, corrected standard errors, and t-tests were used to reanalyze the data. In seven out of eight comparisons, the Phonetic Keys group was significantly superior in spelling and reading achievement. References and tables are included.

5479
Hackney, Ben Hall, Jr. A Study of Word Recognition Skills of a Random Sample of Fourth Grade Students in the Public Schools of North Carolina. 132p. (Ed.D., The University of North Carolina at Chapel Hill, 1964) Dissertation Abstracts, 26, No. 3, 1511-A. Order No. 65-9016, microfilm $3.00, xerography $6.40 from University Microfilms.

The degree to which fourth-grade students from North Carolina acquired 11 word recognition skills which are developed in a basal reading series program was explored. The random sample of 1,711 fourth-grade students was divided into above-average, average, and below-average groups on the basis of scores obtained from the California Reading Test. The Doren Diagnostic Reading Test of Word Recognition Skills was administered, and the scores for the three groups were compared. Better scores on all of the 11 word recognition skill tests were made by the above-average group than by the other two groups. The lowest scores on all of the tests were made by the below-average group. It was also found that a random sample of students did equally as well as the norms on the Doren test.

5480
Hafner, Lawrence Erhardt. An Experimental Study of the Effect on Various Reading Achievement Scores of Teaching Selected Context Aids to a Group of Fifth-Grade Pupils. 137p. (Ed.D., University of Missouri, 1960) Dissertation Abstracts, 21, No. 12, 3714-A. L. C. Card No. Mic 60-6806, microfilm $2.75, xerography $6.60 from University Microfilms.

The California Test of Mental Maturity, SRA Reading Test, and an author constructed Comprehension X test were used in evaluating the effects on reading achievement of teaching fifth-grade pupils the nature and use of selected context aids. Analysis of covariance, t-tests, and Chi square were used to evaluate the effect of teaching contrast, explanatory words and phrases, and two inferential aids for three 35-minute periods per week for 4 weeks. Intellectual and reading ability were controlled for experimental and control groups. No significant differences were found for the major null hypotheses between the experimental and the two control groups on reading comprehension, vocabulary in context, average reading, and context comprehension scores. Though no significant differences were found there is a suggestion that in the area of vocabulary in context achievement the teaching of context aids would be most productive. Analysis of scores of children who were similar in intelligence and experiential background showed that those who received instruction in context aids made greater gains in comprehension than children who had not received instruction.

3407
Hall, John F. "Learning As a Function of Word Frequency," American Journal of Psychology, 58 (March 1954) 138-40.

The relationship between word frequency and recall was studied. The Teacher's Word Book of 30,000 Words served as the guide in the selection of words. Four word lists, each containing 20 words and organized by frequency count, were used to represent a range of more than the 10,000 most frequently used words. The words were selected by a table of random numbers and are listed in the article. Two hundred and twenty-seven students in nine groups of 20 to 30 were recruited from introductory psychology classes at Pennsylvania State University. By means of a slide projector, each word was presented for 5 seconds. Four presentations were made with a 30-second rest period between each trial. After the last trial, the students were given 5 minutes to print as many of the presented words as they could. Performance was measured by the number of words that each student wrote correctly. Misspellings and variants of the word were not counted. The results confirm the hypothesis that, within limits, the more frequently a word appears in the language, the more readily it is recognized. These results suggest that the Thorndike-Lorge word count could be used to calibrate words used in learning experiments. A table is included.

5486
Hanson, Irene Helen Wunderlich. An Investigation of the Effects of Teaching Variant Word Endings to First-Grade Children. 235p. (Ph.D., University of Minnesota, 1965) Dissertation Abstracts, 21, No. 11, 6552. Order No. 65-15,262, microfilm $3.05, xerography $10.60 from University Microfilms.

The effects of the direct teaching of the principles governing the use of variant word endings upon the reading capabilities of first-grade children were investigated. Information concerning the relationship of mental ability level, reading ability level, socioeconomic status, and sex to the children's ability to utilize variant word endings as aids to word recognition was collected. One first-grade class from each of 13 St. Paul, Minnesota, public schools was assigned to an experimental group and one to a control group. The 554 subjects had been randomly assigned to their classes the previous fall; no significant differences were found between the groups. The experimental group received 18 periods of special instruction concerning variant word endings and the application of them to contextual material over a period of 4 weeks. The control group used the same periods of time for independent reading. The Bond-Balow-Hoyt Developmental Reading Test and a Variant Ending Test were used for evaluation. Children in the experimental group profited significantly from special instruction in the principles of using variant word endings. Children at all three mental ability levels and at all five reading ability levels also profited significantly from instruction in variant word endings. However, no significant difference in reading progress after special instruction was noted between the groups.

5142
Hanson, Irene W. "First Grade Children Work with Variant Word Endings." The Reading Teacher, 19 (April 1966) 505-07, 511.

An investigation to determine whether instruction in variant word endings can be given in the second semester of the first grade is described. Twenty-six first-grade classes (554 children) from the St. Paul, Minnesota, public school system were used in the study. The classes were divided into 2 groups of 13 classes equated in terms of socioeconomic level, reading ability, mental ability, age, and knowledge of the use of variant word endings. In addition to regular basal reading instruction, the experimental group was given 18 20-minute lessons in generalizations concerning the variant endings "s," "ed," "d," "ing," "er," "est," and "er." The control classes used the same periods of time for independent reading. Reading skills were evaluated by the Bond-Balow-Hoyt New Developmental Reading Test and a specially constructed Variant Ending Test. For analysis of scores, each group was divided into 3 mental ability groups, 5 reading groups, and 3 socioeconomic levels. The F-ratio for analysis of variance was applied to the means of these groups. Significant differences favoring the experimental group's knowledge of variant endings are reported. Subgroup scores are compared and evaluated. The educational implications of the findings are discussed. References are given.

6836
Harris, Larry Allen. *A Study of the Rate of Acquisition and Retention of Interest-Loaded Words by Low Socioeconomic Kindergarten Children.* 219p. (Ph.D., University of Minnesota, 1967) *Dissertation Abstracts,* 28, No. 9, 3556-A. Order No. 68-1627, microfilm $3.00, xerography $9.90 from University Microfilms.

An investigation was made of the acquisition and retention of interest loaded words when taught to low socioeconomic kindergarten children through different presentation methods. The ability of these children to learn and retain a short list of words and the patterns of response used by those who successfully learned the words were also assessed. Words were presented by two methods: (1) the visual-auditory method (VA), which consisted of the child's seeing, hearing, and saying the word and (2) the visual-visual-auditory method (VVA), which consisted of the child's seeing a picture representing the word and the word simultaneously and hearing and saying the word. Teaching and testing cycles were conducted individually and alternated until the subject had correctly identified each of four words on two successive trials or until 15 cycles had been completed. Retention was checked a day later. These major conclusions were reached: (1) Acquisition for subjects learning boy- or girl-words was not significantly different. (2) Acquisition measures for subjects learning by the VA method were higher than those for subjects using the VVA method. (3) Retention of the words originally acquired was independent of sex, word type, ability, and method of presentation. (4) No single superior learning pattern was identified.

6841
Henry, Harold Lloyd. *The Effect of Contrasting Reading Programs with Varying Emphasis on the Regularity of Phoneme-Grapheme Correspondences on Third-Grade Spelling Achievement*. 181p. (Ed.D., University of California, Berkeley, 1967) *Dissertation Abstracts*, 28, No. 11, 4531-A. Order No. 68-5678, microfilm $3.00, xerography $8.40 from University Microfilms.

The objectives of this investigation were (1) to measure and compare the effects of contrasting reading programs on spelling achievement, (2) to measure and compare the transfer of learning effect of the programs as they related to spelling, and (3) to determine the relationship between particular background variables and spelling achievement. A spelling test was administered to 288 third graders who had been taught with selected reading materials for 3 years. One group used the Sheldon Basic Reading Series-1957 (no control of grapheme-phoneme correspondence). The other group received instruction with the Sullivan Programmed Reading Series-1963 (high control of grapheme-phoneme correspondence). One-half of each group utilized supplementary materials emphasizing language structure as related to meaning. A four-part criterion test was administered to all subjects. Data were analyzed through the ANOVA-Harvard two-way analysis of covariance computer program. The reading program making provision for a high degree of grapheme-phoneme correspondence produced significantly higher results relative to the three objectives of the investigation. The findings lent support to the view that encoding skill is enhanced by materials that have a high degree of control over grapheme-phoneme correspondence.

6366
Hite, Sister Rebecca. "Reading Via Tape for the Inhibited Reader," *Academic Therapy Quarterly*, 2 (Fall 1966) 23-27, 63.

Two reinforcement media were compared to determine how tape lessons reinforced basic reading vocabulary for inhibited readers at the electronic classroom of Marillac School, Kansas City, Missouri. Eighty-three tape lessons were developed with accompanying worksheets and independent seatwork sheets. Thirteen second- and third-grade inhibited readers had 15-minute developmental lessons daily for 90 class days and were given time to complete work for each story lesson on both the tape lesson media and the independent seatwork media. Individual word perception and word recognition tests were given periodically. The status of each subject in reading and in related abilities before and after the experiment, analyzed on a 5-point scale, showed a 2- to 5-month instructional gain in basic word perception skills. An analysis of the tape lessons showed that their psychological value was in the working-with aspect of the lessons, that each lesson integrated principles of good primary reading program and emphasized auditory-visual discrimination and functional development of meanings, and that the oral-auditory aspect allowed maximum use of pupil-time and pupil-response. The entire procedure allowed the teacher more time to guide students individually. Descriptions of the electronic classroom and the tape lessons and extracts of a tape lesson are included.

5502
Hogan, Florence Pearl. *Comparison of Two Methods of Teaching Word Meaning Through the Use of Word Parts in Grades Ten, Eleven, and Twelve.* 204p. (Ed.D., Boston University School of Education, 1961) *Dissertation Abstracts*, 22, No. 12, 4218-A. Order No. 61-3358, microfilm $2.75, xerography $9.25 from University Microfilms.

Two methods of teaching word parts were compared. The independent discovery method was tested by lessons using the classification technique. The usage method was tested by lessons similar to those appearing in word study books at the high school level. The word parts and vocabulary presented were the same for both methods. The exercise material was self-correcting and replaced any formal method of vocabulary study. The study was conducted for a period of 10 weeks, with 15 tenth-, eleventh-, and twelfth-grade English classes using the material 10 minutes per day. A control group of eight classes followed the required procedure for teaching vocabulary. Tests used included Otis Gamma Intelligence Test, Cooperative Reading Test, Morrison McCall Spelling Scale, Beckwith-Hedrick Visual Memory Test, and the author's Applied Word Parts Test. The author concluded that the study of word parts was an efficient means of teaching vocabulary to high school students. The independent discovery method was superior to the usage method in teaching word meaning in all areas of achievement measured by the study and was particularly useful in teaching boys and low-ability students. The independent study students registered the greatest gains in vocabulary with a marked transfer to other related areas.

6850
Hubrig, Billie Oween. *A Feasibility Study of the Auto-Instructional Approach in Teaching Letter-Sound Association to Kindergarten Children.* 249p. (Ph.D., University of Pittsburgh, 1967) *Dissertation Abstracts*, 28, No. 11, 4377-A. Order No. 68-7513, microfilm $3.25, xerography $11.25 from University Microfilms.

The autoinstructional approach was used to design a program of sequential behaviors in letter-sound association for kindergarten children. The objectives were visual recognition of a specified consonant presented within a visual or sound context. The subject had to discover for himself the relationship of the letter-sound association. A 10-unit program was presented on a machine with synchronized auditory and visual messages. Subjects indicated responses in one of five response windows. The final group of subjects consisted of 10 controls and 10 experimentals. Findings showed no relationship between time per unit and ability to complete the program successfully. Letter naming was not indicated as a prerequisite for letter-sound association. No patterns of missed or confused letter-sound association emerged. It was concluded that a curriculum in letter-sound association could be developed for use with kindergarten children, that an automated teaching device could furnish a means for measuring behavioral changes in letter-sound association, and that letter-sound confusions could provide a ratio of difficulty index usable for program improvement.

5507
Hurley, Oliver Leon. The Interrelationships of Intersensory Integration, Visual Sequential Memory, Spatial Ability, and Reading Ability in Second and Third Graders. 130p. (Ph.D., University of Illinois, 1965) Dissertation Abstracts, 26, No. 12, 7179-A. Order No. 66-4203, microfilm $3.00, xerography $6.20 from University Microfilms.

The interrelationships of intersensory integration, visual sequential memory, spatial ability, and reading ability in second and third graders were investigated. The following hypotheses were tested: integrational defects will distinguish adequate readers from inadequate readers and defects in immediate memory or spatial-closure necessitate a defect in integrative ability. The subjects were 27 matched pairs of boys and 13 matched pairs of girls selected from two Illinois school systems. One member from each pair was an inadequate reader, and one was an adequate reader. The following extensive battery of individually administered tests were used: Visual-Motor Sequential, Knox Cubes, Visual Attention Span for Letters (short term memory), PMA Spatial Relations, Frostig Figure Group, Spatial Relations (spatial ability), and Astereognosis, Birch and Lefford Tests of Intersensory Coordination (intersensory coordination). A second-order Principal Axis Factor Analysis with a Varimax rotation produced five relatively distinct factors: Intersensory Integration (Unlike Forms), Spatial Ability, Intersensory Integration (Like Forms), Visual Sequencing Memory, and Reading. Significant differences were shown for all groups between the reading groups on the Reading Factor. Additional findings are included.

4247
Ibeling, Frederick W. "Supplementary Phonics Instruction and Reading and Spelling Ability," Elementary School Journal, 62 (December 1961) 152-56.

A study was conducted to determine the effect of supplementary phonics instruction on the reading and spelling ability of pupils in grades 2, 4, and 6 in the Wayzata Consolidated School District near Minneapolis. About 600 children from various socioeconomic levels were randomly assigned to experimental and control classes. Two hundred were in the experimental group. Both groups were given training in reading from the Scott-Foresman series and in spelling from various teacher-chosen texts. The experimental group was given additional phonics instruction from Building Reading Skills in grade 2 and from Phonics We Use in grade 4 and 6. The Gates Reading Tests, California Achievement Tests, Bond-Clymer-Hoyt Silent Reading Test, and Otis Quick-Scoring Mental Ability Tests were used to evaluate student performances before and after the 7-month instructional period. Test and subtest scores were analyzed and compared. Results differed from class to class within the experimental and control groups. Significantly higher scores for the second-grade phonics-trained group are reported in visual analysis skills, phonics knowledge, and spelling. References and a table are included.

5510
Indrisano, Roselmina. Evaluation of a Word Analysis Program for Grade Two. 317p. (Ph.D., Boston University School of Education, 1963) Dissertation Abstracts, 25, No. 4, 2377-A. Order No. 64-4050, microfilm $4.10, xerography $14.40 from University Microfilms.

The effect of a planned program in word analysis on reading achievement, spelling achievement, phonics knowledge, and ability to pronounce unfamiliar words was studied. A second-grade population was divided into two groups and equated on the following variables: intelligence, reading achievement, spelling achievement, and knowledge of phonics. At the completion of the program and again 2 months later, tests were administered and the data were analyzed to determine the effect of the program. Test instruments used included the Metropolitan Reading Achievement Test, Metropolitan Spelling Achievement Test, Gates Word Pronunciation Test, and a phonics test. In the findings, the author states that: (1) Reading and spelling achievement were increased. In reading, there was a statistically significant increase in favor of the experimental group. Although the increase in spelling achievement was not statistically significant, it did favor the experimental group. (2) There was an increase in the transfer of phonetic knowledge to the pronunciation of unknown words as well as an increase in specific phonetic knowledge. The increase was statistically significant and, in both instances, favored the experimental group. (3) The program was equally effective for children of different intelligence levels. (4) The program was equally effective for boys and girls.

6863
Jones, Margaret Jane. A Comparison of Four Instructional Methods in Teaching Word Recognition to Culturally Disadvantaged Learners. 80p. (Ed.D., The Pennsylvania State University, 1966) Dissertation Abstracts, 27, No. 11, 3758-A. Order No. 67-5928, microfilm $3.00, xerography $4.20 from University Microfilms.

The auditory, visual, and kinesthetic methods of teaching word recognition and a combination of the three methods were used respectively on four consecutive days to teach 10 new words during a 15-minute period each day. Subjects were 84 culturally disadvantaged Negro children grouped in nursery school, kindergarten, and first-grade classes. Delayed recall tests of the 10 words presented under each method were administered 24 hours after each learning session. Analysis of variance revealed that method was in no way a significant factor in the teaching of word recognition. There was no significant relationship between presentation order of method and learning of new words, between grade level and method, nor between intelligence and method. Both intelligence and increased chronological age resulted in greater abilities in word recognition. A significant relationship between sex and intelligence favored males.

2957
Jude, Sister. "Six- and Seven-Year Old Children's Acquaintance with the Vocabulary of Comics," Studies in Reading, 1. Publications of the Scottish Council on Research in Education, 26, 173-210. (Warwick Square, London, E.C.4: University of London Press, Ltd., 1948)

An investigation of the vocabulary content of comics read by 6- to 7-year-old children was conducted to determine its effects on a child's vocabulary growth. The outer and middle picture pages of six of the most popular children's comics were sampled, two for 3 consecutive weeks, four for 1 week. A word count indicated an average of 2,000 words per comic. This list was compared with Vernon's "Vocabulary of Scottish Children Entering School" and "Word Counts of Infant Readers." Seventy-five percent of all words were on the two lists. The use of slang, misspelled words, and onomatopoeia was slight, 7 percent total amount. Nouns and verbs predominated. Five lists of 100 sample words selected from the original 2,000 were read by 500 6- to 7-year-old children. Results indicated 30 easy words (recognized by 90 percent of readers), a large majority of moderately difficult words (known to most of the readers), and a small number of difficult words (known to less than 10 percent of the readers). It was concluded that the vocabulary of comics is closely related to the child's stage of articulation and vocabulary development and that it can provide a natural beginning for vocabulary extension. Word lists and children's responses are included. A bibliography is given.

4915
King, Ethel M. "Effects of Different Kinds of Visual Discrimination Training on Learning to Read Words," Journal of Educational Psychology, 55 (December 1964) 325-33.

A study was made of the effects of different kinds of visual discrimination training on the performance of six groups (23 each) of kindergarten children learning to read four words. Five groups were trained with successive presentations and one group with simultaneous presentations. Words different from those in the reading task, different meaningful words (presentation of visual form, sound, and picture), same words as reading task, same letters which were constituents of reading words, and geometric forms (for the control group only) were used as types of stimuli for training. To determine findings, analysis of variance was used. Significant group differences in reading performance favoring groups trained in matching different meaningful words and the same letter were indicated. Tables interpreting the findings are shown. References are given.

6114
King, Ethel M. "Learning to Read Words: An Experiment in Visual Discrimination," Reading and Inquiry. International Reading Association Conference Proceedings, 10 (1965) 337-40.

The effects of visual discrimination using different types of stimulus materials and different methods of stimulus presentation on performance in the transfer task of learning to read a word list were studied. Five groups of nonreading kindergarten students were trained using the successive method of presentation, in which the investigator presented the stimulus, removed it, and asked the child to recall the response elicited by the stimulus. A sixth group used the simultaneous method, in which the stimulus and response choices in visual discrimination exercises were presented simultaneously. Different types of stimuli were used: words, words and pictures, letters, and geometric figures. Findings of the study indicated (1) that meaningful word forms were superior to word forms with no meaning; (2) that different word groups presented in the successive method were superior to all groups except the same letter presentation in the successive method; and (3) that visual discrimination matching of all the single letters to be used later in a reading task was better training than matching the same words. The findings tended to support the hypothesis that the letter is the unit of learning to read. It was suggested that prereading and beginning reading programs be modified to include discrimination learning.

5533
Krane, Louis. A Study of the Relationship of Phonic Ability, Irrespective of How It Was Acquired, and Silent Reading Comprehension of High-School Students. 128p. (Ed.D., Western Reserve University, 1965) Dissertation Abstracts, 26, No. 11, 6446-A. Order No. 66-3034, microfilm $3.00, xerography $6.20 from University Microfilms.

The relationship between phonic ability and various aspects of silent reading comprehension was studied in a sample of 27 males and 31 females in the eleventh grade at Garfield Heights, Ohio. Phonic ability was defined in terms of the ability to work out the pronunciation of an unfamiliar word with no clue other than letters and diacritical marks assigned to long and short vowels of these nonsense words. A Test of Phonic Ability was constructed by the investigator and used to measure ability in phonics. Ten individual scores, including a total score, from the Iowa Silent Advanced Reading Tests were used as the criterion of silent reading comprehension. It was revealed by the results that three statistically significant relationships existed in the scores of the combined sample when intelligence was held constant: phonic ability and word meaning, phonic ability and sentence meaning, and phonic ability and total reading. Five to six percent of the variance in the scores pertaining to word meaning, sentence meaning, and total reading was found to result from variation in phonic ability. It was concluded that phonic ability is essential but not sufficient for effective skills in silent reading comprehension.

5543
La Pray, Margaret Helen. An Investigation of the Linguistic Approach to Beginning Reading with Respect to Word-Perception. 151p. (Ph.D., Cornell University, 1961) Dissertation Abstracts, 22, No. 9, 3118-A. Order No. 61-6736, microfilm $2.75, xerography $7.20 from University Microfilms.

The purpose of this investigation was to determine the value of four sets of first-grade linguistic reading texts in teaching beginning reading with particular emphasis on word perception. Three of the sets were composed of two- and three-letter words with the reading content consisting of a series of sequential statements rather than stories of high interest level. The fourth set did not have the above characteristics. The author conducted a study to determine the importance of configuration and letter identification in word perception of first-grade children. It was hypothesized that good and poor readers would not differ significantly in perceiving known words with respect to configuration, configuration plus initial letter, and configuration plus ending letter. The study indicated that configuration was exceedingly important in the success of first-grade children, with high reading achievers tending to also be highest in recognizing known words through configuration. The author concluded that three out of the four sets of first-grade linguistic reading texts are of doubtful value in teaching beginning reading because of the focus of attention upon identical words except for the change of one letter rather than upon words which change in length and total configuration.

Lay, Margaret Zoe. The Relationship of Selected Perceptual and Cognitive Variables to Word Recognition Learning. 77p. (Ed.D., The University of Florida, 1967) Dissertation Abstracts, 29, No. 1, 149-A. Order No. 68-9535, microfilm $3.00, xerography $4.20 from University Microfilms.

Interpreting Piaget's formulations of development, the investigator utilized visual discrimination, visual discrimination-retention, and conservation as predictors for aspects of word recognition, which were assessed by means of an experimental learning task. It has been hypothesized, within the Piagetian framework, that visual discrimination-retention would be the best predictor of the three variables for word recognition achievement. Instead, visual discrimination proved the superior predictor. However, visual discrimination together with visual discrimination-retention was highly effective (R= .86) with respect to the identification of related words. Conservation was not found to be significantly related to word recognition.

4098
Lee, W. R. Spelling Irregularity and Reading Difficulty in English. Occasional Publication, No. 2. (London: National Foundation for Educational Research in England and Wales, 1960) 74p.

A three-part inquiry into the relationship between the spelling irregularities of the English language and reading difficulty was conducted to determine whether there is a genuine need for spelling reform. Part I consisted of an extensive survey of parallel reading research done in countries other than England. Part II was an investigation of English children's oral reading errors as related to spelling, both as isolates and in connected passages. Part III was an experiment using nonsense words to determine whether children formed any association between the sounds of English and the most frequent ways in which these sounds were spelled. Schools used in part II were six junior mixed and/or infant schools in London (group 1), one girls' secondary modern school in western Ireland (group 2), and three English-speaking schools in western Ireland (group 3). Different children in the group 1 and 2 schools were used in part III of the study. It was concluded that children had slightly greater difficulty with the more irregularly spelled words in context and greater difficulty with irregularly spelled words in isolation than with regularly spelled words. No evidence indicated that the children had formed a mental association between English sounds and their most frequent spellings. Further research is recommended before spelling simplification is adopted. Tables and references are given.

6703
Levin, Harry and Biemiller, Andrew J. Contingent Versus Non-Contingent Spelling Patterns. Studies of Oral Reading, III. Preliminary Draft. 22p. (BR-5-0617-7, OEC-4-10-113, 1966) ED 011 954, microfiche $0.25, hard copy $1.10 from EDRS/NCR.

The effects which certain correspondences between spelling and sound have on reading were assessed. The 54 subjects were drawn in equal numbers from grades 2, 3, and 4. To compare the response latencies and the errors made when reading three intermixed lists of 12 words each, the children were asked to read aloud each word as it was presented on the screen. The first list contained words beginning with "C," "G," or "K" in some of their less common pronunciations. The second list contained words beginning with the same letters in their more common pronunciation. The third list contained words differing from the first list only in having initial letters with invariant spelling-to-sound correspondences. The oral responses to each presented word were tape recorded, and the interval between presentation of the word on the screen and the subjects' response constituted the verbal reaction time. Errors were analyzed from a transcript of the tape. Longer latencies and more errors were found in using the first list, but no differences between the other two lists were observed. Results were most clear-cut for fourth graders. Most of the errors made on the first list consisted of giving the more common pronunciation of the first letter. The author's interpretation of the results was that the children responded to the single pronunciation pattern they had learned, the common one, and had difficulty with patterns with which they had little experience. He concluded that the contrastive pronunciation forms should be presented simultaneously to the child.

6575
Levin, Harry and others. A Basic Research Program in Reading. 393p. (CRP-639, Cornell University, Ithaca, New York, 1963) ED 002 967, microfiche $1.50, hard copy $19.65 from EDRS/NCR.

A theoretical analysis of the reading process, both psychological and linguistic, and the studies developing from the analysis formed the basis for this research program on reading. A research group was organized as a loose federation with each of the principal investigators pursuing his own ideas and taking responsibility for them.

The 22 completed studies presented in the report fall into several groups. Group one covered the acquisition of reading skill through such activities as (1) learning to speak one's language, (2) discriminating letters, (3) learning to decode graphic symbols to their appropriate speech symbols, and (4) forming or discovering higher units for rapid reading. Group two discussed (1) the relationship between reading and writing, (2) the learning of grapheme-to-phoneme correspondences, and (3) the sources of confusion errors in the recognition of word forms. Group three discussed the role played by various types of stimulus attributes when they are present as competing cues in tasks requiring a child to make comparative similarity judgments. Group four analyzed some of the implications of linguistics for the process of reading. Group five covered research aimed at the empirical definitions of units in language.

6665
Levin, Harry and others. Reports of Research in Progress--Project Literacy Reports, No. 7. 95p. (CRP-X-020-7, BR-5-0537-7, OEC-6-10-028, Cornell University, Ithaca, New York, 1966) ED 010 313, microfiche $0.50, hard copy $4.75 from EDRS/NCR.

Provided in this report are complete texts of several research papers presented for "Project Literacy." The central theme of each paper is basic research and/or curriculum development in areas of education relevant to the acquisition of reading skills. Titles of these papers are (1) "Motivational Content Analysis of Primers," (2) "Outline of Research on the English of Negro and Puerto Rican Speakers in New York City," (3) "Verbal and Visual Elaboration in Paired Associate Learning," (4) "Eidetic Imagery in Children," (5) "Adult-Child Interaction in Preschool Years," (6) "The Child's Knowledge of English Pluralization Rules," (7) "A Study of Selected Grapheme-Phoneme Correspondence Patterns," (8) "On the Interactions of Memory and Perception," (9) "The Role of Pronounceability in Perception of Pseudo-Words by Hearing and Deaf Subjects," (10) "Perceptual 'Chunking' and Storage in Reading Words," and (11) "Sentence Structure and the Eye-Voice Span."

4264
Love, Harold D. "An Experimental Phonics Program Versus a Controlled Integral Reading Program," Journal of Developmental Reading, 4 (Summer 1961) 280-82.

The historical changes in phonics instruction in the United States are summarized. Two methods of teaching remedial reading in a summer workshop are compared. Thirty children of the Thibodaux area were divided into an experimental group, which was taught phonics as a special drill subject in a remedial reading program, and a control group, which was taught phonics as an integral part of the whole reading program. The two groups were matched as to chronological age, intelligence quotient, vision, and hearing. Library books, an SRA Reading Laboratory, mimeographed materials for skill building, spelling workbooks, games, flash-cards, and dictionaries were among the materials utilized by both groups in the program. No significant difference was shown in the gains made by the experimental and the control groups. Tables and references are included.

6905
McClenathan, DayAnn Kennedy. A Comparison of Three Alphabetic Media Used in Beginning Reading Instruction. 195p. (Ed.D., State University of New York at Buffalo, 1967) Dissertation Abstracts, 28, No. 5, 1624-A. Order No. 67-13,522, microfilm $3.00, xerography $8.80 from University Microfilms.

The effects of using three alphabetic media in teaching the same reading content to 336 kindergarten children in the final 12 weeks of the school year were studied. Reading skills acquired before formal instruction were screened, and reading readiness was determined by the Lee-Clark Reading Readiness Test. Preprimers of the "New Basic Reader Series" published by Scott, Foresman were used by the two experimental groups and the one control group. The only experimental variable used was the alphabet design of the preprimers. One experimental group used the Initial Teaching Alphabet (i/t/a). Another used Adjusted Traditonal Orthography (a.t.o.). The control group used Traditional Orthography (T.O.). No significant differences in ability to recall familar words resulted from training in any of the three alphabetic media. Both i/t/a and a.t.o. were significantly superior to T.O. in facilitating independent word analysis. There were no significant differences between i/t/a and a.t.o. in facilitating word identification. Word recognition in T.O. was not impaired by early training in an experimental alphabetic media.

3230
McGinnies, Elliot, Comer, Patrick B., and Lacey, Oliver L. "Visual Recognition Thresholds As a Function of Word Length and Word Frequency," Journal of Experimental Psychology, 44 (August 1952) 65-69.

The effects of both word length and frequency upon recognition thresholds, as measured by duration of exposure necessary for veridical report, were investigated. A carefully selected list of 20 words was presented tachistoscopically to 20 subjects, 12 men and eight women drawn from students at the University of Alabama. Recognition thresholds for words varying in length and frequency were determined for the 20 subjects. Despite individual differences in slope and level of perceptual acuity, regression equations determined for each subject indicated that duration thresholds for neutrally-toned words were a linear, decreasing function of word frequency and a linear, increasing function of word length. These findings held true for words varying from five to 11 letters in length and from 10 to 400 occurrences per million in frequency. Analysis of variance of the data also revealed a significant interaction between frequency and length. This relationship seemed to be one in which an increase in frequency lowered recognition thresholds more for long words than for short words. An increase in word length, on the other hand, raised threholds more strikingly for low-frequency words than for high-frequency words. References are given.

4944
Marchbanks, Gabrielle and Levin, Harry. "Cues by Which Children Recognize Words," Journal of Educational Psychology, 56, (April 1965) 57-61.

Findings are presented from a study to discover which cues children use to recognize words. The following questions were considered. (1) What are the cues by which beginning readers and nonreaders remember a word? (2) Are the same cues utilized in a long and a short word? (3) Do nonreaders and beginning readers use the same cues? (4) Do boys and girls utilize the same cues? Fifty kindergarten children (25 boys and 25 girls) with a mean age of 5.16 years and 50 first graders (25 boys and 25 girls) with a mean age of 6.54 years were randomly selected as subjects from the Dryden Central School in Dryden, New York. They were required to select from a group of pseudowords the one similar to a word that had just been exposed to them. Each word in the response group contained one cue that was the same as the stimulus word, with the stimulus held constant. Specific letters and not overall word shapes formed the basis for recognition. The first letter was the most important cue; the final letter, the second most important. In three-letter words the last letter was a more salient cue. Explanations of methods and statistical data used, tables, and references are given.

6913
Marmon, Morris. The Effectiveness of Alphabet Recognition and Auditory Discrimination Training on Word Recognition. 120p. (Ed.D., University of California, Los Angeles, 1966) Dissertation Abstracts, 27, No. 10, 3370-A. Order No. 67-4484, microfilm $3.00, xerography $5.80 from University Microfilms.

An investigation was made of the effectiveness of alphabet recognition and auditory discrimination training on word recognition.

Subjects were selected from two population areas, a middle-class Caucasian area and a low-economic Negro area. Subjects in each population area received one of four training methods: the alphabet recognition training, the auditory training, a combination of the two, or no training. Materials were from the Speech-to-Print Phonics kit, used as a supplement to the normal Ginn basal reading program. In the low-economic area, children receiving a combined program achieved higher scores on word recognition tests. Children in the middle-class area showed no significant differences in scores regardless of the program used. Children in the middle-class area using none of the treatments received higher scores than the children in the low-economic area receiving no treatment. Recommendations for further study are made, and ideas to be considered in planning future programs are offered.

4946
Mason, George E. "Children Learn Words from Commercial TV," *Elementary School Journal*, 65 (March 1965) 318-20.

Pupils were tested to determine whether they could identify printed words seen on the television screen as they were spoken. Sets of cards consisting of 15 to 50 words which were printed as they appeared on the television screen were made by 12 teachers and administered to students who were classified by their teachers as superior, average, or inferior in reading ability. In all, 345 children from kindergarten through seventh grade were tested, and of the 11,978 responses given, 8,238 were correct. An increase in the percent of words known was shown from grade to grade, discounting the kindergartners. It was found that some of the kindergartners were able to identify words frequently seen and pronounced simultaneously even though they had had no formal reading instruction. In general it was shown that poor readers seemed to learn less well from television than good readers and that television viewing led to some mislearnings such as "Coke" for "Coca-Cola." It was suggested that teachers' knowledge of children's television viewing habits might be incorporated in reading lessons and that further study of television word-learning could lead to better reading instruction, under controlled [illegible] conditions of intelligence and regulated viewing. Tables are included.

6075
Mason, George E. "The Role of Phonics in the First Grade Program," *Challenge and Experiment in Reading*. International Reading Association Conference Proceedings, 7 (1962) 27-29.

A number of studies on beginning reading are discussed. It is concluded (1) that phonics instruction will help children develop the visual perception necessary for efficient word recognition; (2) that phonics instruction should be part of a first-grade program as needed, following the introduction of some whole sight words; and (3) that most first-grade children, regardless of intelligence, need some phonics instruction. The role of phonics instruction in first grade, then, is a catalyst in the larger job of developing a sight vocabulary. References are included.

6074
Mason, George E. "Word Recognition Practice: Basal Vs. Phonics Programs," Improvement of Reading Through Classroom Practice. International Reading Association Conference Proceedings, 9 (1966) 309-10.

Suggested practices for introducing phonics, structural analysis, and dictionary use in eight basal readers and seven phonics programs were compared. Recording of both levels of skill introduction and sequence of skill introduction showed considerable differences; therefore, isolating instructional differences in order to study pupil achievement differences seems almost impossible.

5111
Elkind, David, Horn, John, and Schneider, Gerrie. "Modified Word Recognition, Reading Achievement and Perceptual De-centration," Journal of Genetic Psychology, 107 (1965) 235-51.

An exploratory study investigated the problems of word recognition and reading achievement from the standpoint of Piaget's logical model for perceptual development. His model is described, and research relating to it is summarized. One hundred and eighty children in grades 2 through 6 of a suburban Denver school (at least 25 subjects at each grade level) were tested for reading achievement, recognition of modified words, and perceptual decentration. Statistical methods employed to analyze the data are described. A regular increase in children's ability to recognize known words in modified form was found to increase with age. Modified word recognition and reading achievement were highly correlated at all age levels studied, and measures of modified word recognition and reading achievement involved a factor in common with measures of nonverbal perceptual decentration. References and tables are included.

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Mertens, Marjorie K. A Visual Perception Test for the Prediction and Diagnosis of Reading Ability. 124p. (Ed.D., University of Arizona, 1968) Dissertation Abstracts, 29, No. 4,, 1133-A. Order No. 68-13,671, microfilm $3.00, xerography $6.00 from University Microfilms.

A visual perception test was designed to identify those first-grade children who might develop reading disabilities because of some visual perceptual deficit. The test incorporated seven subtests: (1) Design Copying, (2) Reversals, (3) Design Reproduction, (4) Framed Pictures, (5) Design Completion, (6) Spatial Recognition, and (7) Visual Memory. At the beginning of the school year, both the newly conceived Visual Perception Test and the Metropolitan Readiness Test were given to 139 subjects. Near the end of the school year, the Stanford Achievement Test was administered to the same subjects. A correlational analysis of concurrent validity and predictive validity was made along with subtest intercorrelations. The most important result of the score analysis indicated that the Visual Perception Test predicted reading ability in the areas of word meaning and paragraph meaning, as measured by the Stanford Achievement Test, better than the Metropolitan Reading Readiness Test did. Vocabulary ability was equally well predicted. Administration and readministration of the Visual Perception Test to another group of 69 subjects within a period of 3 weeks showed a high (.982) test-retest reliability.

5580
Miller, Harry Blair, Jr. Instruction in Phonics and Success in Beginning Reading and Spelling. 179p. (Ed.D., University of Pittsburgh, 1962) Dissertation Abstracts, 24, No. 5, 1931-A. Order No. 63-6377, microfilm $2.75, xerography $8.20 from University Microfilms.

The reading achievement of first-grade children using a reading program of both the Basic Reading Series (Scott, Foresman) and the Phonetic Keys to Reading (Economy Company) was compared with that of first graders who used only the Basic Reading Series. Pupil achievement was measured by the Kuhlman-Anderson Intelligence Test, Form A; The Metropolitan Achievement Test, Primary Battery I, Form A (pretest), Form B (post-test); The Stanford Achievement Test, Primary Battery, Spelling, Form L (pretest), and Form N (post-test). Analysis of covariance was used to determine differences of mean raw scores for the two groups. Evidence obtained showed that at the end of the first grade neither method of teaching beginning reading appeared to be superior. Neither method appeared to be more beneficial to boys, with the exception of the word knowledge portion of the test and, for boys of the second quarter, intelligence test scores in spelling. Neither method indicated an excellence in beginning reading instruction for girls. It was concluded that the additional emphasis on a phonetic word attack method is not fully justified.

4954
Morton, John. "The Effects of Context on the Visual Duration Threshold for Words," British Journal of Psychology, 55 (May 1965) 165-80.

A study to determine how context affects the perception of words as measured by their visual duration thresholds is described. Subjects were 24 female British university students divided into three equal groups. A test including 18 incomplete sentences and a list of words which could complete the ideas in the sentences was devised. The words were presented to the subjects by a tachistoscope under three conditions: (1) with a highly predictive context, (2) with a lesser predictive context, and (3) with no context. Each subject was asked to report immediately the words she had perceived; after the test, with no previous warning, the subject was asked to recall all the words she had seen during the test. Results showed that the visual duration threshold for a word was reduced by the presence of a context in relation to the transitional probability of the stimulus word. Detailed analysis is given of the subjects' errors on the test. Factors determining the perception of words are discussed. A model for the recognition of words which accounts for the findings of the study is outlined. Tables and a bibliography are included.

6106
Muehl, Siegmar. "The Effects of Letter-Name Knowledge of Learning to Read a Word List in Kindergarten Children," Challenge and Experiment in Reading. International Reading Association Conference Proceedings, 7 (1962) 128-33.

The alternate possibilities that letter-name learning provides a cue which mediates or which interferes with learning to read a word list are explored. Research indicates that kindergarten children learn to discriminate words and associate word meaning on the basis of details associated with the stimulus configuration of the word and that children learn to associate familiar verbal labels with these details. Providing children with a consistent set of labels in the form of letter names should facilitate these processes. Results of the study showed (1) that learning letter names interfered with word recognition and was most directly reflected in the frequency of omissions; (2) that kindergarten children may not have the language skills necessary to utilize the information provided them by letter-name labels; (3) that children's verbal responses to adult questions about how they recognize a word may bear no relation to the identifying response they actually use; and (4) that it is possible the relation between letter-name knowledge and reading performance resulted from the sound similarity between most letter names and their phonic value in word pronunciation. References and tables are included.

4120
Muehl, Siegmar. "The Effects of Visual Discrimination Pretraining on Learning to Read a Vocabulary List in Kindergarten Children," Journal of Educational Psychology, 51 (August 1960) 217-21.

The effects of different types of visual discrimination pretraining on the performance of kindergarten children learning to read a vocabulary list were studied. The six pretraining trials consisted of three types of stimulus to be matched: the same words appearing in the vocabulary list, different words, and geometric forms. The response measure was the number of correct anticipations in 12 trials of the vocabulary learning list. Subjects, 37 kindergarten children from three public kindergartens in Iowa City, were randomly assigned to the three pretraining groups. Means, standard deviations, and analysis of variance were used to analyze the data. The type of pretraining affected learning performance: those children who matched vocabulary list words learned the vocabulary list fastest. Single letters or details of these words appeared to be the basis for word matching. References are included.

6118
Muehl, Siegmar and King, Ethel M. "Recent Research in Visual Discrimination: Significance for Beginning Reading," Vistas in Reading. International Reading Association Conference Proceedings, 11, Part 1 (1966) 434-39.

An overview of recent research on learning discrimination is presented, and implications for teaching reading are suggested. Results of experimentation imply (1) that visual discrimination training should, from the beginning, deal with word and letter stimuli; (2) that the simultaneous matching format presently used seems adequate; (3) that letter stimuli should be used as early as kindergarten; (4) that three-way association of visual, sound, and meaning clues should be used prior to beginning reading instruction; (5) that specific visual discrimination should be used prior to each reading lesson; and (6) that picture clues used to introduce new vocabulary would probably facilitate learning. References are included.

3534
Mulder, Robert L. and Curtin, James. "Vocal Phonic Ability and Silent Reading Achievements: A First Report," Elementary School Journal, 56 (November 1955) 121-23.

The hypothesis that a relation exists between the ability to fuse orally-presented phonetic elements into words and the ability to read was investigated. Sixty-three fourth-grade pupils in the public schools of Independence, Oregon, were subjects. A tape recording of 78 one-syllable nouns was utilized to test the ability to synthesize the phonetic elements in words presented orally. Reading scores from the Iowa Every-Pupil Tests of Basic Skills, Battery A, Form M, were obtained for each individual. An analysis of data indicated a positive relation between silent reading ability and vocal phonic ability.

Poor readers were deficient in the ability to synthesize phonetic elements of words into meaningful word patterns; good readers apparently possessed this ability. References and implications for further research are included.

6077
Murphy, Helen A. "A Research Pitfall: Jumping to Conclusions," Challenge and Experiment in Reading. International Reading Association Conference Proceedings, 7 (1962) 117-19.

Thirty years of research evidence have shown that knowledge of letter names and sounds contributes to a child's success in learning to read and that these abilities can be taught. This research summary includes studies made to determine what skills children possessed when they entered first grade, preschool experiences as reported by parent interviews, and school adjustment as evaluated by teachers. High achievers were matched with low achievers of the same mental age, showing that those who knew letters when they began school were superior in reading achievement in March of the same year. Exercises were developed to teach letter recognition to an experimental group, while a control group was not taught the letters. The experimental group was statistically superior to the control group. Children who were taught letter names as well as letter recognition appeared to more easily acquire sight vocabulary than those who were not taught. A study comparing a sound and letter recognition program with the readiness program of a basal reader series showed the sound-letter recognition program to produce superior results. Further studies involved the analysis of readiness workbooks and the development of an inservice program for first-grade teachers. References are included.

5224
Murphy, Helen A. "Growth in Perception of Word Elements in Three Types of Beginning Reading Instruction," The Reading Teacher, 19 (May 1966) 585-89.

The effects of a gradual approach to phonics instruction, as outlined in a basal reader, were compared with a program of early teaching of letter names and sounds. The relation of word element perception to sight vocabulary growth and the value of a writing emphasis in the speech-based phonics program were also investigated. Thirty first-grade classrooms in three industrial cities were divided into three groups. (1) Treatment A, gradual phonics group, used Scott Foresman manuals, readers, and workbooks. (2) Treatment B, Speech-to-Print phonics group with visual word study, used Scott Foresman stories and accompanying sight vocabulary along with a 10-day program to teach letter names and a 55-lesson phonics program.

(3) Treatment C, Speech-to-Print phonics group with writing word study, used the same materials as group B except that the self-directed seat work involved writing exercises. Tests used in program evaluation included individual vocabulary inventories, group tests of homophone knowledge and homonym spelling, the Murphy-Durrell test, and the Stanford Achievement Test. It was concluded that sight vocabulary growth is related to word element perception, that early teaching of a speech-based phonics program results in higher reading and spelling achievement, and that early emphasis on writing practice results in more writing and better spelling in students' compositions.

6611
Murphy, Helen A. Reading Achievements in Relation to Growth in Perception of Word Elements in Three Types of Beginning Reading Instruction. 114p. (CRP-2675, Boston University, Massachusetts, 1965) ED 003 478, microfiche $0.50, hard copy $5.70 from EDRS/NCR.

The problems examined in this study were (1) the relationship of perception of word elements to sight vocabulary growth, (2) the effect of early teaching of a speech-based phonics program on reading achievement, and (3) the value of writing emphasis in the speech-based phonics program. Three reading programs were included in the study, each used in 10 first-grade classrooms. One group followed the "gradual phonics approach" found in the Scott Foresman readers and workbooks. A second group followed the systematic "speech-to-print phonics" program (Durrell and Murphy, 1964) with visual word study. The third group also used the "speech-to-print phonics" with an emphasis on writing responses. Test batteries were used to gather data on the three groups throughout 1 school year. The following conclusions were made on the basis of test data analysis--(1) growth in sight vocabulary in beginning reading is related to perception of word elements, (2) early teaching of speech-based phonics results in higher achievement in reading and spelling, and (3) emphasis in writing practice results in more writing and better spelling in children's compositions.

6936
Myers, Dorothy Charlotte. The Effects of Letter Knowledge on Achievement in Reading in the First Grade. 178p. (Ed.D., University of Missouri, Columbia, 1966) Dissertation Abstracts, 27, No. 8, 2449-A. Order No. 67-956, microfilm $3.00, xerography $8.20 from University Microfilms.

The achievement of 208 first-grade pupils was compared to determine the relative effects of three approaches to initial reading instruction. One group received initial instruction in letter names, followed by the teaching of sight words. A second group received initial instruction in letter names and letter sounds, followed by sight words, and a third group began with instruction in sight words, followed by instruction in letter names and sounds. All groups received further instruction in the same basal reader. The experimental instruction began the second week of school and was concluded by the end of the eighteenth week. The criterion measurements for comparing the three approaches consisted of tests of word knowledge, word discrimination, and sentence and paragraph comprehension. Pretests of reading readiness and intelligence were used for statistical control in the analysis of covariance. It was concluded that initial instruction in letter names and letter sounds produced greater achievement in word perception than the other approaches for children with IQ's from 98 to 119. There was no difference in measured comprehension among the three approaches for any of the intelligence levels studied. Initial instruction in letter names and letter sounds appeared to be an aid chiefly to those children who were average on measures of reading readiness, while initial instruction in letter names appeared to be of value mainly for children who were below average on measures of reading readiness.

3431
Osburn, Worth J. "Teaching Spelling by Teaching Syllables and Root Words," Elementary School Journal, 55 (September 1954) 32-41.

The frequency of occurrence of the syllables in materials which children read and write was measured to facilitate the development of techniques for teaching spelling and reading. An inventory was made of the initial, medial, and final syllables of all polysyllabic words in the Rinsland word list, approximately 9,000 words. A summary of the frequencies of occurrence of all syllables which occurred 10 times or more is given. Tables and references are included.

5596
Otto, Wayne Raymond. The Acquisition and Retention of Paired Associates by Good, Average and Poor Readers. 94p. (Ph.D., University of Wisconsin, 1961) Dissertation Abstracts, 22, No. 2, 489-A. Order No. Mic 61-2972, microfilm $2.75, xerography $4.80 from University Microfilms.

A three-by-three factorial design with three levels of reading proficiency, subjects from grades 2, 4, and 6, and three modes of reinforcement--auditory, visual-auditory, and kinesthetic-visual-auditory, was utilized to assess the acquisition and retention of paired associates by good, average, and poor readers. One hundred and eight subjects, a male and female in each condition, served under

27 experimental situations to learn, to recall, and to relearn after 24 hours a list of five paired associates. Performance measures were associations evoked by the figures and trigrams, total acquisition trials necessary to master the list, quality of performance when the forms were presented in series, and total trials to relearn the list after acquisition trials. Good, average, and poor readers, in that order, required increasingly more trials to master the paired associates. The reading-level-grade interactions indicated that further investigations must consider these as affecting variables. Grade level interaction suggested that studies investigating the relative efficiency of different modes of reinforcement must recognize grade placement as an affecting variable. No significant interaction existed between mode of reinforcement and reading level. Grade level was the only significant variable affecting total relearning scores. Once they have mastered a series, poor readers seem to retain the paired associates as well as good readers.

3436
Postman, Leo and Conger, Beverly. "Verbal Habits and the Visual Recognition of Words," Science, 99 (May 1954) 671-73.

The question of whether it is the frequency of past visual exposure to the stimuli per se or the frequency of past usage of the words that is the essential variable in establishing a threshold of visual word recognition was investigated. An experimental sample of 27 three-letter words was presented at random on a slide projector to 21 college students. Speed was held at 0.01 second. Variations in brightness of flash were used to determine the threshold of recognition, with 14 exposures given for each word. The number of exposures required for recognition was used as the measure of threshold. For comparison of recognition scores, all threshold measures were converted into standard scores. Results indicated (1) that there was no relationship between recognition thresholds and the trigram frequency of words, (2) that verbal habits were important determiners of the speed of recognition of letter sequences, and (3) that subjects responded with relatively frequent words for incomplete stimulus cues. It was concluded that speed of recognition for letter sequences varied significantly with the strength of verbal habits associated with those stimuli, and no effects of sheer frequency of exposure were demonstrated. References are listed.

3656
Postman, Leo and Rosenzweig, Mark R. "Perceptual Recognition of Words," Journal of Speech and Hearing Disorders, 22 (June 1957) 245-53.

Studies related to the relative influence of frequency of past exposure and/or the frequency of past usage of the stimuli as a critical variable in word recognition are reviewed. The studies are arranged and discussed under the following topics: (1) frequency of usage and recognition thresholds, (2) past exposure vs. past usage as determinants of word recognition, (3) experimental control of frequency of usage, (4) transfer across sense modalities, and (5) prerecognition errors. On the basis of the cited studies, it was concluded that the recognition of verbal stimuli appears influenced to an important degree by the verbal habits of the perceiver, that the speed of recognition of an item depends on the frequency with which this item has been discriminated and used in the past, and that improvement in word recognition can be achieved through strengthening and differentiating verbal habits. Twelve references are cited.

6464
Prentice, J. L. "Semantics and Syntax in Word Learning," Journal of Verbal Learning and Verbal Behavior, 5 (June 1966) 279-84.

The effects of syntax and semantics in word learning were compared. Subjects were 48 fourth graders from Bloomington, Indiana. The materials consisted of consonant-vowel-consonant (CVC) trigrams assigned to a word class. Treatment groups were semantic training, syntax training, and both training. The procedure is described. The Word Knowledge subtest of the Metropolitan Achievement Test and especially constructed semantics and syntax tests were administered. Pupils trained with pictures (semantics group) could identify new verbal instances of the referent better. The syntax group was best able to use new words grammatically. Sex differences were not consistent nor reliable. References are included.

6956
Price, Alvin Harold. The Effect of Subject Response Mode and Peer Social Reinforcement on Children's Learning in Programmed Instruction. 115p. (Ph.D., University of Minnesota, 1966) Dissertation Abstracts, 28, No. 1, 130-A. Order No. 67-7773, microfilm $3.00, xerography $5.60 from University Microfilms.

A training program for the acquisition of a sight vocabulary of 24 nouns was presented on an autoinstructional device to 60 nonreading kindergarten children to explore the effect of social reinforcement and response mode parameters. Social reinforcement was defined as the presence of a noninteracting peer who sat behind the subject and observed his work during the training trials. Covert responders were defined as those who observed another child respond overtly to the training task. The results indicate that the method of training used was effective with kindergarten children. Subjects who worked in the presence of a noninteracting peer did not have significantly better post-test scores on the criterion test than subjects who worked by themselves. There was tentative evidence that subjects who responded overtly to the training programs scored significantly higher than the subjects who responded covertly.

3987
Ramsey, Wallace. "An Analysis of Variables Predictive of Reading Growth," Journal of Developmental Reading, 3 (Spring 1960) 158-64.

Sixteen variables were studied to determine which were predictive of improvement in various important reading abilities among 138 eleventh graders in one Missouri high school. The California Test of Mental Maturity, Long Form; the Cooperative English Tests: Reading Comprehension C1.; and the Diagnostic Reading Tests, Word Attack, Silent, Upper Level were administered to students involved in a developmental reading program. The mean percentile for the Missouri group on each test was compared with that of other students on whom the test was standardized. Correlation coefficients are listed. Results indicated no significantly positive relationship between intelligence and gains in the reading skills measured. Relationships between gains in word attack and gains in reading vocabulary, speed, and comprehension lacked statistical and practical significance. Findings indicated (1) that motivation and interest may level intelligence as a factor in accomplishment so that below-average learners gain in reading ability as much as do fast learners, (2) that increase in word ability is not a dependable predictor of growth in other reading skills, and (3) that there is a need for further exploration of the influence of unfulfilled reading potential upon reading growth. Tentative conclusions concerning the abilities of the eleventh graders involved in the year-long developmental reading program are listed. References are given.

5622
Richardson, Donald Calvin. Children's Pre-School Reading Experiences and Related Success in Beginning Reading. 168p. (Ed.D., The University of Nebraska Teachers College, 1963) Dissertation Abstracts, 24, No. 12, 5096-A. Order No. 64-5529, microfilm $2.75, xerography $7.80 from University Microfilms.

Few differences could be indicated when preschool reading experiences of children identified as outstanding readers were contrasted with pupils experiencing least success. This study identified six second-grade pupils and their parents in each of eight elementary schools whose enrollment exceeded 500 pupils. Three pupils from each building were considered outstanding readers by principals and teachers, and three were among those judged as experiencing least reading success at comparable grade placement. Pupils were matched on chronological age, IQ, and sex. Preschool experiences of the children in both groups as reported by parents in structural interviews were analyzed. Parents responded to 186 individual questions. Three of the six items that were found to be significant indicated that pupils in the outstanding readers' group could recognize significantly more words identified for them, could recognize their names prior to kindergarten and could form letters of the alphabet more readily than could pupils with least success in reading. These items only lend credibility to the theory that reading is the identification and recognition of words, and outstanding readers would be expected to possess these qualities.

6962
Richardson, Norma Sexton. A Study of Three Methods of Teaching Word Recognition Skills. 87p. (Ed.D., Arizona State University, 1966) Dissertation Abstracts, 27, No. 4, 998-A. Order No. 66-9820, microfilm $3.00, xerography $4.60 from University Microfilms.

Three different instructional approaches in teaching word recognition skills to beginning readers were studied to determine whether instructional emphasis on letter similarities or on letter dissimilarities or whether a combined method of similarities and dissimilarities would be most effective in developing word recogntion skill. Nine first-grade classes were selected randomly from the public schools of Tempe, Arizona. None of the methods was significantly superior in teaching word recognition skills. The length of the period of instruction did make a significant difference at the .05 level. An examination of the method-time interaction showed that the dissimilarity and combined methods were characterized by an initially high achievement level in word recognition which was followed by a marked decline and a partial recovery. It would appear that these methods should be utilized when a short time period is available.

4484
Robinson, H. Alan. "A Study of the Techniques of Word Identification," The Reading Teacher, 16 (January 1963) 238-42.

The relative effectiveness of various techniques for the identification of unfamiliar words met in reading is reported. Five hypotheses were tested using the techniques of context clues, word configurations, phonic or structural elements in initial positions, and whole words. The techniques were cumulative when presented in the experimental setting. Subjects were 61 fourth-grade students in Chicago. A pilot study was conducted to test the feasibility of using sixth-grade words from the Dale-Eichholz study. Twenty-two words were chosen, and five forms of a selection were designed to use the word attack techniques. Subjects read each form and tried to read the unknown word in its various settings. Means, standard deviations, and percentages were used to analyze the data. Subjects found neither context clues nor context clues plus word configurations sufficient to identify words. The addition of phonic or structural elements in initial and final positions and the entire word were not sufficient to identify the unknown word. A discussion of results, suggestions for further research, and references are included.

6079
Robinson, H. Alan. "Phonics Instruction--When? What? for Whom?" Reading as an Intellectual Activity. International Reading Association Conference Proceedings, 8 (1963) 224-28.

Research on phonics instruction is examined, and the questions of what phonics instruction is and when it begins are discussed. Phonics instruction is defined as direct, planned teaching aimed at helping a pupil analyze printed or written symbols to determine their pronunciations. Research dealing with beginning phonics instruction is varied and inconclusive. No standards are given; although, there are indications that individual pupil readiness factors should be considered to determine the best time and methods for each child. References are included.

6967
Robinson, Joanne Adley. The Development of Certain Pronunciation Skills in the Case of Suffixed Words. 185p. (Ed.D., Harvard University, 1967) Dissertation Abstracts, 28, No. 10, 4009-A. Order No. 67-14,243, microfilm $3.00, xerography $8.40 from University Microfilms.

The development, from grade 3 to adulthood, of the ability to form suffixed words and of the ability to pronounce these words with correct syllabic stress was investigated. A series of pseudowords and actual English words suffixed with "tion" or "ity" were presented to the subjects. One-half of these words required a shift of syllabic stress; one-half did not. Results indicated (1) that there were regular developmental progressions in the abilities measured, (2) that subjects handled actual words better than pseudowords, and (3) that there was an interaction between the ability to handle syllabic stress shift and the particular suffix involved. It was concluded that, to a large extent, particular words and their pronunciations are learned as individual items rather than as exemplars of stress shift and suffix formation rules.

6972
Rosenfield, Sylvia Schulman. The Effect of Perceptual Style on Word Discrimination Ability of Kindergarten Children. 103p. (Ph.D., The University of Wisconsin, 1967) Dissertation Abstracts, 28, No. 12, 4914-A. Order No. 67-17,007, microfilm $3.00, xerography $5.20 from University Microfilms.

The usefulness of analytic perceptual style as a predictor of visual discrimination level was studied. Subjects were 60 kindergarten children divided into analytic and nonanalytic groups of boys and girls. One-half of each group received discrimination training. Analysis of variance indicated that nonanalytic boys did significantly poorer on the Word Discrimination Test than their analytic peers. No significant differences were found for girls. An analysis of covariance and an examination of the improvement pattern of the groups indicated that nonanalytic boys who had received discrimination training improved more than any other group.

Rouch, Roger Lewis. The Relationship of Certain Selected Factors of Visual Discrimination to Performance in Beginning Reading. 139p. (Ed.D., Ball State University, 1967) Dissertation Abstracts, 29, No. 1, 73-A. Order No. 68-3244, microfilm $3.00, xerography $6.00 from University Microfilms.

The following measurable visual discrimination tasks were studied in order to ascertain their relation to performance in beginning reading: matching word forms, matching geometric forms, discriminating letters, and distinguishing between figure and background by responding to the figure. The sample population consisted of 203 first-grade pupils who were analyzed by sex, IQ, and reading achievement. The data, derived from the American School Reading Readiness Test, the Frostig Program for the Development of Visual Perception, the Developmental Test of Visual Perception, the Strauss picture test of pure visual perception, and the Rouch test to distinguish between figure and background, were analyzed by means of coefficients of correlation and t-tests. Little difference was found in the extent to which word matching, letter discrimination, and symbol matching were related to performance in beginning reading. The portion of the study concerning the relationship between the ability to distinguish figure from background and beginning reading performance was inconclusive.

6624
Ruddell, Robert B. The Effect of Four Programs of Reading Instruction with Varying Emphasis on the Regularity of Grapheme-Phoneme Correspondences and the Relation of Language Structure to Meaning on Achievement in First Grade Reading. 194p. (CRP-2699, OEC-SAE-2699, Calif-

ornia University, Berkeley, 1965) ED 003 820, microfiche $0.75, hard copy $9.70 from EDRS/NCR.

The primary objective of the study was to investigate the effect of four reading programs on word recognition and reading comprehension skills. These programs varied in (1) the degree of regularity of grapheme-phoneme correspondences programed into the vocabulary presented and (2) the emphasis on language structure as related to meaning. Four exploratory questions were developed to study the relationship between the independent background variables of mental age, socioeconomic status, sex, and chronological age and the dependent variables of word recognition and reading comprehension. Students from 24 first-grade classrooms were given 2 existing reading programs and 2 programs developed to meet the specific needs of this study. It was concluded that the first-grade reading programs possessing a high degree of consistency in grapheme-phoneme correspondences produced significantly higher word reading, word study drills, and regular word identification achievement than those programs offering little provision for consistent correspondences. The need for more carefully designed longitudinal reading research studies was discussed.

3662
Rudisill, Mabel. "Interrelations of Functional Phonic Knowledge, Reading, Spelling, and Mental Age," Elementary School Journal, 52 (February 1957) 264-67.

An investigation was made of the interrelations between functional phonic knowledge, reading achievement, spelling achievement, and mental age among 315 pupils in grade 3. The third graders of 10 classrooms and four schools of the Durham, North Carolina, city schools were selected. An inventory of 144 nonsense words was constructed to measure ability to apply phonic knowledge in pronouncing new words. Intelligence tests, reading achievement tests, and spelling achievement tests, as well as the inventory, were administered to the children. Intercorrelations were computed between the four measures. The intercorrelations of reading, spelling, and phonic knowledge were about equal, suggesting that there were common factors between reading, spelling, and phonic knowledge independent of intelligence and that these factors were the results of specific training rather than the natural results of applied intelligence. It was concluded that functional phonic knowledge makes a substantial contribution to achievement in reading and in spelling. References and tables are included.

3554
Russell, David H. "Teachers' Views on Phonics," Elementary English, 32 (October 1955) 371-75.

Two hundred and twenty experienced elementary teachers, principals, supervisors, and other school personnel from 33 states attending summer session classes at Columbia University, the University of California, Berkeley, and the University of Oregon were surveyed to determine their views on the place of phonics in the elementary reading program. Questionnaires composed of items to be checked and free response replies were completed by the teachers before phonics was discussed in their summer classes. The questionnaire included items dealing with who should receive phonics instruction, how phonics is taught, when phonics should be taught, the use of phonics workbooks, the use of phonics activities with basal reading programs and in teaching word attack skills, sources which are most useful in helping teachers prepare lessons on word attack skills, the relation of phonics and other word attack skills to other phases of reading activity, and the role of phonics in the elementary school reading program. It was concluded from the sample studied that phonics is an important phase of reading training, but it should not be the sole method of reading instruction. A brief history of the role of phonics in reading instruction from the 1830's to 1954 is given. Tables are included.

6976
Saltz, Martin. A Comparative Analysis of Selected Basal Reading Series. 383p. (Ph.D., The University of Connecticut, 1965) Dissertation Abstracts, 28, No. 9, 3383-A. Order No. 66-886, microfilm $4.95, xerography $17.55 from University Microfilms.

Six selected series of basal readers currently in use were analyzed to determine specific skills taught, similarities and differences in skills taught and in sequence used, amount of practice materials available for maintaining the skills, and differences in skills introduced and maintained within a grade level. One hundred and thirty-nine skills were identified, of which 28 were classified as word analysis skills, 37 comprehension and interpretation skills, 28 language skills, 42 study skills, and 4 miscellaneous skills. Only 41 of these skills were found in all six series. Greater agreement was established among the series of word analysis, comprehension, and interpretation skills than on language or study skills. Appreciable agreement was found on the proper level to introduce word analysis skills but not study skills. Readers in one series were not found to be necessarily comparable to readers at the same level in another series. Few new skills were introduced beyond grade 3. The intermediate level appeared to provide more time for the introduction and development of higher level skills than was being provided. A need to move beyond the basal reader series for necessary training not provided therein was determined.

6977
Sample, Gerald Taulbee. A Comparative Study of the Scope, Sequence,

and Timing of the Introduction of Phonics As Practiced by Some Publishers of Reading Series. 90p. (Ph.D., University of Oklahoma, 1966) Dissertation Abstracts, 27, No. 2, 334-A. Order No. 66-8093, microfilm $3.00, xerography $4.60 from University Microfilms.

A comparison of the scope, sequence, and timing in programs of phonetic analysis of eight basic reading series is reported. Teachers' manuals accompanying each of the eight beginning reading series were the source of data. Tabulations were made of the introduction of each element of phonetic analysis, and a record was kept of each time the element received additional attention. An analysis of the tables developed in the study revealed that all eight series gave considerable attention to the introduction of phonetic analysis. One series presented no phonetic analysis on the preprimer level, and another presented all vowels and consonants, three blends, three digraphs, and some phonetic generalizations on the same level. There was no agreement among the series in terms of the total number of phonetic elements and the number of times the pupils' attention was specifically directed to a particular element.

5637
Samuels, Stanley Jay. The Effect of Experimentally Learned Word Associations on Textual Response (Reading) Acquisition. 84p. (Ed.D., University of California, Los Angeles, 1965) Dissertation Abstracts, 25, No. 12, Part I, 7089-A. Order No. 65-4980, microfilm $2.75, xerography $4.40 from University Microfilms.

The effect of experimentally learned word associations on textual response learning was investigated. Forty-four second semester first graders were presented word associate stimulus and response words. All the subjects were able to text the stimulus words; whereas, none of them were able to text the response words at the beginning of the experiment. The subjects had to learn to text the response words. It was hypothesized that word associations can exert a powerful effect upon learning textual responses. Four treatments--including a facilitation treatment, an interference treatment, a neutral treatment, and a textual response only treatment--were administered consecutively to each subject. The data were analyzed by an analysis of variance technique. From an analysis of the results, the author concluded that textual response learning could be facilitated if the same word associations learned during familiarization were visually presented during textual response training.

6642
Samuels, Stanley Jay. Word Associations and Learning to Read. 36p. (CRP-S-378, University of California, Los Angeles Campus, 1966) ED 010 050, microfiche $0.25, hard copy $1.80 from EDRS/NCR.

An experiment was conducted to determine the effect of 2-word associations in learning to read the second word of a 2-word chain. About 45 first- and second-grade students were chosen as subjects after pretesting to insure they were able to read the first (stimulus) word but not the second (response) word of each word pair used in the study. Eight stimulus and eight response words were used. Each trainee first received instruction in word association by responding orally with the response word after learning the stimulus word. Reading training followed this first procedure through word pair recall and word matching techniques. A word recognition test was then given on the eight response words. Two measures of learning were used--(1) number of correct reading responses and (2) speed of recognition. Results from both measures showed conclusively that the strength of associations between words did influence the overall acquisition of correct reading responses.

5645
Sebesta, Sam Leaton. Artificial Orthography As a Transitional Device in First-Grade Reading Instruction. 161p. (Ed.D., Stanford University, 1963) Dissertation Abstracts, 24, No. 8, 3237-A. Order No. 64-1578, microfilm $2.75, xerography $7.60 from University Microfilms.

An artificial orthography using graphemic symbols reproducible on a standard typewriter and corresponding as much as possible to the traditional writing system was devised to determine the effect of grapheme-phoneme noncorrespondence on first-grade reading ability and to determine whether the imposed correspondence would simplify reading training through consistent illustration of the alphabetic principle. A grapheme was designated for each of the sounded phonemes in the language, and primary reading materials were reproduced using consistent spelling based on an analysis of subjects' dialect. Thirteen female and 14 male pairs of first graders from a lower-middle-class community were matched according to reading readiness and intelligence. The investigator taught 70 50-minute reading lessons on consecutive days, using a methodology described in teachers' manuals for a current reading textbook series. The only difference between the experimental and control groups was the orthography. During the final 15 lessons experimental subjects underwent transition from artificial to traditional orthography, reading materials in both orthographies. Following training, subjects were given the Familiar Words Test of written identification of 70 words taught during the training, oral individually-administered tests of 50 common words chosen from the Rinsland and Dolch lists but not previously taught, and the PWR and PSR types of Gates Primary Reading Tests. The imposed orthographic consistency and subsequent transition to traditional writing failed to produce superior gains on Familiar Words recognition or on standard word recognition tests. The transition from artificial to traditional orthography did not appear to hinder word recognition.

4988
Sebesta, Sam Leaton. "Artificial Orthography As a Transitional Device in First-Grade Reading Instruction," Journal of Educational Psychology, 55 (October 1964) 253-57.

A discussion of the graphemic-phonemic correspondence in traditional orthography is given. A comparative study of the differences in early reading instruction between traditional orthography and an artificial orthography consistent with traditional symbols but imposing graphemic-phonemic regularity is described. Twenty-seven pairs of first graders were matched according to intelligence, readiness, and sex. Seventy lessons of instruction differing only in the orthographic variable were given. Transition from artificial to traditional orthography for the experimental group was effected during the final 15 sessions. There were no significant differences for female pairs on familiar- or unfamiliar-word recognition. Differences for male pairs were not found on familiar-word recognition, but significances at the .05 level were noted on a test of unfamiliar-word recognition. A discussion of the transition from artificial to traditional orthography is given. References are included, and further research is suggested.

6984
Serwer, Blanche L. The Relation between Selected Reading Readiness Measures and Acquisition of Sight Vocabulary in Low Socio-Economic Urban First-Grade Negro Children. 136p. (Ph.D., New York University, 1966) Dissertation Abstracts, 27, No. 8, 2409-A. Order No. 67-124, microfilm $3.00, xerography $6.60 from University Microfilms.

A sample of 147 children in two special service schools in the Harlem area of New York City was measured on five aspects of reading readiness. A measure of the acquisition of sight words, the initial task in the reading process as reading is currently taught in a preponderant number of schools in the nation, was obtained at the same time. The measures of reading readiness included were oral language comprehension, auditory discrimination, visual discrimination, letter name knowledge, and visual-motor coordination. Each of these five measures was found to have a significant positive correlation with the acquisition of sight words. In this sample of disadvantaged Negro children, there were no significant differences favoring girls in the selected reading readiness measures. However, boys were significantly more proficient in knowledge of word meanings. There was no difference in the correlations found for boys and for girls. Knowledge of letter names was found to contribute most to the multiple R of .566. A comparison of the mean scores of the children in this study with the test norms revealed that this sample was at or below the thirtieth percentile on all five reading readiness measures.

4495
Severson, Eileen E. "The Teaching of Reading-Study Skills in Biology," American Biology Teacher, 25 (March 1963) 203-04.

An experiment is described in which standard procedures were used to improve the reading capabilities of biology students. Four tenth-grade biology classes were divided into two experimental groups and two control groups for the experiment. The students were matched on the basis of age, sex, and reading ability. The control classes received regular instruction. The experimental classes were instructed in skills for vocabulary development and were given extensive instruction in word analysis techniques. A brief description of the vocabulary instruction is given. On a vocabulary examination given at the end of the first semester, the experimental classes showed an average increased achievement of 17 percent over the control classes. The findings are discussed.

3560
Shane, Harold G. "The First R," Research Helps in Teaching the Language Arts, Chapter 2, 4-33. (Washington, D. C.: Association for Supervision and Curriculum Development, National Education Association, 1955)

Reading research dealing with those areas most frequently of concern to teachers is surveyed. A discussion and a summary for each of the following topics are included: (1) reading readiness, (2) the sequence of reading experiences, (3) word attack skills, speed, and comprehension, (4) the reading program and individual differences, (5) reading and children's interest, (6) the effectiveness of commercial materials, (7) causes of reading disability, (8) evaluation of pupils' progress in reading, and (9) the role of oral reading. A 191-item bibliography is provided.

5648
Shea, Carol Ann. Visual Discrimination of Words As a Predictor of Reading Readiness. 180p. (Ph.D., The University of Connecticut, 1964) Dissertation Abstracts, 25, No. 11, 6321-A. Order No. 65-2743, microfilm $2.75, xerography $8.20 from University Microfilms.

A correlation study was completed to determine the best predictor of reading achievement at midyear. The Visual Discrimination Word Test; the Metropolitan Reading Readiness Test, Form R; and the Lorge-Thorndike Intelligence Test were administered to 76 first-grade children. After 5 months of formal first-grade instruction, a word recognition test constructed by the investigator was administered to these same children. From an analysis of the data, the author reached the following conclusions: (1) The Lorge-Thorndike Intelligence

Test and the Visual Discrimination Word Test had the greatest correlations with the Word Recognition Test. (2) The Visual Discrimination Word Test was the best predictor of word recognition ability for the pupils in the lowest quarter, the low-middle quarter, and the highest quarter of the group. (3) The Metropolitan Reading Readiness Test was the best predictor of word recognition ability for the pupils in the high-middle quarter of the group. (4) There was a high correlation between achievement on the Visual Discrimination Word Test and achievement on the Word Recognition Test, and an almost identical relationship existed between achievement on the Lorge-Thorndike Intelligence Test and the Word Recognition Test.

5652
Silberberg, Norman Esau. An Investigation to Identify Intellectual and Perceptual Correlates of Disability in Word Recognition. 70p. (Ph.D., State University of Iowa, 1965) Dissertation Abstracts, 26, No. 2, 878-A. Order No. 65-6709, microfilm $3.00, xerography $3.80 from University Microfilms.

The incidence and extent of reading disability among primary-grade pupils who had been referred for school psychological services were investigated. The possibility that a multivariate analysis might identify Wechsler Intelligence Scale for Children (WISC) profile differences between disabled and nondisabled readers in each of the first three grades separately was also investigated. The defining characteristics of these groups were based on configuration of scores on the WISC and the Bender Gestalt Test. The extent of a student's reading disability depended on the difference between his expected grade equivalent on the Word Recognition of the Wide Range Achievement Test and his actual score. It was concluded that pattern analysis of WISC profiles or the use of Bender Gestalt Test scores provided virtually no clues as to the nature or extent of correctable reading deficiencies in primary-grade children. Even a fairly large difference in verbal and performance IQ only suggested reading retardation. This was particularly true when the similarities scaled score was the lowest of the verbal subtest. The Bender Gestalt scores were almost totally unrelated to the existence or amount of reading retardation. Additional results and conclusions are included.

5657
Simula, Vernon Leonard. *An Investigation of the Effects of Test Anxiety and Perceptual Rigidity upon Word Recognition Skill of Second Grade Children.* 90p. (Ed.D., Indiana University, 1964) *Dissertation Abstracts*, 25, No. 10, 5751-A. Order No. 65-2398, microfilm $2.75, xerography $4.60 from University Microfilms.

The effects of test anxiety and perceptual rigidity upon the acquisition of word recognition skill among 412 second-grade children were studied. Through the procedures utilized, the author identified 60 of 412 children as high anxious according to a score above the median of Sarason's Test Anxiety Scale for Children and according to teacher rating identifying the child as having exhibited overt symptoms of test anxiety. An additional 120 subjects were administered three tests: the Peabody Picture Vocabulary Test, the Wisconsin Card Sorting Test, and the author-prepared Word Recognition test. Subjects who scored above the median on the Wisconsin Card Sorting Test were designated as high in perceptual rigidity. In the statistical design, the author used a two-way, 2x2 analysis of covariance design. The author suggests that test anxiety appears to be an important variable in determining how readily children are able to acquire a word recognition vocabulary during beginning reading instruction. Although perceptual rigidity was not found to be independently associated with poor word recognition skill, there was some indication that this variable may affect word recognition skill through an interaction effect with test anxiety.

6036
Singer, Harry. "Substrata-Factor Theory of Reading: Theoretical Design for Teaching Reading," *Challenge and Experiment in Reading*. International Reading Association Conference Proceedings, 7 (1962) 226-32.

A substrata factor theory for reading activity, including speed and power, is presented. A model of this theory at grade-4 level is explained. Inherent in the model are word recognition, word meaning, and reasoning in context--three substrata factor sequences which constitute general working systems for speed and power of reading. Instruction is needed in these areas in order to give the reader the necessary versatility to reorganize his working system according to his various purposes. The instructional process should be developed in alternation, beginnning with diagnosis of causal deficiencies in working elements, subgrouping for instructional purposes, and developing word recognition and word meaning abilities by using combined instructional approaches which will provide versatility in these areas. A bibliography is included.

Skinner, Georgieann Tuech. Single Versus Multiple Modality in Visual and Auditory Discrimination Training. 125p. (Ed.D., Arizona State University, 1968) Dissertation Abstracts, 29, No. 4, 1172-A. Order No. 68-15,016, microfilm $3.00, xerography $6.00 from University Microfilms.

The effects of single and multiple modality visual discrimination training upon the visual discrimination ability of first-grade pupils was studied. Possible variations in the capacity to discriminate similarities and differences in spoken words between children who had single modality auditory training and children who had had multiple modality visual discrimination training was also investigated. Ten intact classes in Phoenix, Arizona, were randomly assigned to two experimental groups. One experimental group received single modality visual and auditory discrimination training while the other received multiple modality visual and auditory discrimination training. The Harrison-Stroud Reading Readiness Test served for the pretest and post-test. Subjects exposed to single modality training made significantly higher visual discrimination scores on the post-test; no difference was found with regard to auditory discrimination.

3786
Smith, Nila B. "What Research Says about Phonics Instruction," Journal of Educational Research, 51 (September 1957) 1-9.

Research dealing with phonics instruction is summarized. The historical phases of high interest in phonics, from 1890 to 1920 and from 1940 to 1957, are reviewed. Four major questions concerning phonics instruction are: (1) are the schools teaching phonics at the present time, (2) should we teach phonics, (3) when should phonics instruction begin, and (4) how should we teach phonics. The individual studies dealing with each question are cited and discussed. References are included.

3456
Smith, Nila Banton. "What Research Tells Us about Word Recognition," Elementary School Journal, 55 (October 1954) 440-46.

A review of the research on word recognition is presented. The following conclusions were derived from the literature. (1) It cannot be assumed that all children need phonics. (2) Phonics is effective with children who need word-recognition help, but its greatest effectiveness is attained when it is taught functionally and is related to children's reading needs. (3) It is advisable to delay intensive phonics instruction until a child has attained a mental age of 7 years. (4) Phonics instruction is most valuable at the second- and third-grade levels. (5) The use of configuration clues and context clues should be supplemented with phonics. (6) It would be well to give more attention to both visual and auditory discrimination in teaching all types of word recognition. A 26-item bibliography is included.

3269
Solomon, Richard L. and Postman, Leo. "Frequency of Usage As a Determinant of Recognition Thresholds for Words," Journal of Experimental Psychology, 43 (March 1952) 195-201.

The relationship between tachistoscopic recognition thresholds for words and frequency of prior usage is reported. Two experiments were conducted, the first with five undergraduate students at Harvard University and the second with 30 University of California undergraduates. One hundred cards containing 24 pronounceable nonsense words with varying frequency were used as stimuli. Subjects were required to read and pronounce the nonsense words. Core-words were shown on a tachistoscope, and students were to respond. Analysis of variance was used to analyze the data. Frequency was found to be a significant source of variance. Recognition thresholds varied inversely with frequency of prior usage. References are included.

3353
Sommerfeld, Roy E. "An Evaluation of the Tachistoscope in Reading Improvement Programs," What the Colleges are Doing in Reading Improvement Programs. Third Yearbook of the Southwest Reading Conference for Colleges and Universities, 3 (1954) 7-25.

The relationships between tachistoscopic span and reading ability and between perception span and recognition span were studied at the University of Michigan during the summer and fall of 1951. Ninety-seven volunteers from a beginning educational psychology course were examined for tachistoscopic threshold span, number of digits perceived when the stimulus series was greater than the threshold, tachistoscopic span for words, rate of reading scores as obtained from reading three 1,000-word passages from Strang's "Study Type of Reading Exercises," level-of-comprehension scores from the Cooporative English Test C2, and size of fixations in normal reading and rate of reading as recorded by eye-movement photographs. No significant relationships were found in the correlations of variables for tachistoscopic span and reading ability or for size of perception span and recognition span while reading. The controversy over the intrinsic validity of tachistoscopic training is discussed. Previous research involving tests of tachistoscopic perception, effects of tachistoscopic training on the span of perception and on reading achievement, and the relationship between tachistoscopic span and reading ability is reviewed. Tables and a 44-item bibliography are included.

5000
Spielberger, Charles D. and Denny, J. Peter. "Visual Recognition Thresholds As a Function of Verbal Ability and Word Frequency," Journal of Experimental Psychology, 65 (June 1963) 597-602.

Results of a study to evaluate the effects of verbal ability and word frequency on visual recognition thresholds are reported. Thirty-two male Duke University introductory psychology students who scored in the upper and lower 20 percent of the distribution of the Linguistic scale of the American Council on Education Psychological Examination for College Freshmen (ACE), 1949 edition, were studied. Sixteen subjects with ACE raw scores of 62 or below were designated the low verbal ability group; 16 subjects whose scores were 83 or above were designated the high verbal ability group. Twelve words of low, moderate, and high frequency of occurrence in the Thorndike-Lorge word counts were tachistoscopically presented. Inverse relationships were obtained between word frequency and recognition thresholds for both high and low verbal ability subjects. High ability subjects recognized low frequency words more rapidly than low ability subjects. A table, graphs, and references are given.

6654
Staats, Arthur W. Emotions and Images in Language--A Learning Analysis of Their Acquisition and Function. 27p. (BR-5-0216-OP-1, OEC-5-10-154, University of Wisconsin, Madison Campus Research and Development Center, 1966) ED 010 213, microfiche $0.25, hard copy $1.35 from EDRS/NCR.

This article presents theoretical and experimental analyses concerning important aspects of language. It is suggested that a learning theory which integrates instrumental and classical conditioning, cutting across theoretical lines, can serve as the basis for a comprehensive theory of language acquisition and function. The paper illustrates the possibilities of such an integrated learning approach by showing that word meaning is acquired according to the principles of classical conditioning. However, words that have acquired emotional meaning through the process of classical conditioning function for the individual according to the principles of instrumental conditioning. The findings presented, derived from the integrated learning theory, contribute toward a learning conception of word meaning, indicate one of the most powerful functions of language (its motivational function), and demonstrate the value of the approach. An analysis of denotative word meaning is also presented.

6612
Stauffer, Russell G. and Hammond, Dorsey. Effectiveness of a Language Arts and Basic Reader Approach to First Grade Reading Instruction. 149p. (CRP-2679, Delaware University, Newark, Delaware, 1965) ED 003 484, microfiche $0.75, hard copy $7.45 from EDRS/NCR.

A language arts approach to beginning reading instruction was compared with a basic reader approach. In general, it was concluded that the language arts approach to beginning reading instruction was an effective method. It produced excellent results in reading performance, word attack skills, spelling, vocabulary development, written communication as promoted by creative writing, and handwriting. Furthermore, the technique can be used effectively with all children.

4509
Stone, David R. and Bartischi, Vilda. "A Basic Word List from Basal Readers," Elementary English, 40 (April 1963) 420-27.

A study designed to develop a composite basal word list based on the words introduced in five of the most widely used basal reading series and the Dolch (1942) and Fry (1960) lists is described. Basal readers from preprimer through grade 3 (Scott, Foresman; Ginn; Macmillan; Houghton Mifflin; and Heath) were used in the study. Words from the five series are grouped into half-year levels, and words which also appear on the Dolch and Fry lists are identified. References and tables are included.

6042
Swauger, Velora V. "Use of Television for Reading Instruction to Supplement the Developmental Reading Program in a County System," Changing Concepts of Reading Instruction. International Reading Association Conference Proceedings, 6 (1961) 154-56.

Two semiweekly television reading programs to supplement classroom instruction are explained. The Reading Skills Program has two tracks which deal with sequential word analysis and dictionary use. Content is that of a basal reader series with time provided for skill practice. In the Controlled Reader Program, track A ranges in difficulty from first to fourth grade, and track B, from third to seventh grade. Children are prepared by the teacher in vocabulary and motivation and are then read rate-controlled stories from the television screen. Studio and classroom teachers function as a team in planning and directing activities and in evaluating the programs.

4336
Taylor, Janet A., Rosenfeldt, Doris C., and Schulz, Rudolph W. "The Relationship between Word Frequency and Perceptibility with a Forced-Choice Technique," Journal of Abnormal and Social Psychology, 62 (May 1961) 491-96.

Two experiments to define the relationship between frequency of prior usage and verbal report using a modification of the forced-choice psychophysical technique are reported. University students were simultaneously presented with several words and were required to indicate the spatial position of one of the words which had previously been identified by the examiner. Experiment 1 was replicated three times with 17, 18, and 19 undergraduate psychology students at Northwestern University. Experiment 2 included 66 students enrolled in introductory psychology courses who were given a different but parallel set of stimulus materials. High and low frequency nouns, two presented simultaneously in experiment 1 and four presented simultaneously in experiment 2, were the stimulus materials. Slides were prepared for the word presentations. The mean number of percent of correct answers and t-tests were used to analyze the data. In two word pairings, there was no difference in the correct identification of high or low frequency words. In four word pairings, high frequency words were located significantly more accurately. The implications of a perceptual interpretation of the findings are discussed. References are included.

3362
Templin, Mildred C. "Phonic Knowledge and Its Relation to the Spelling and Reading Achievement of Fourth Grade Pupils," Journal of Educational Research, 57 (February 1954) 441-54.

One recall and three recognition phonic tests were constructed to determine the ability of the children to associate sounds with the written symbols used to represent them. The Stanford Spelling Test and the Durrell-Sullivan Reading Test were used. The relation of phonic knowledge to spelling and reading achievement was tested on 318 fourth-grade children. The conclusions follow: (1) A substantial amount of phonic knowledge had been acquired by fourth-grade pupils. (2) The correlations between phonic knowledge and spelling were somewhat higher than between phonic knowledge and reading. (3) The better spellers received the higher scores on all tests except the sound discrimination test. (4) The better readers received the higher scores on all tests. (5) Scores on the phonic knowledge test were significantly higher when a recognition rather than a recall technique of measurement was used. (6) Higher scores were obtained when the stimulus was a familiar word rather than a sound or a nonsense word. References are given.

5689
Thurston, Eric Llewellyn. An Investigation to Determine the Existence of an Order of Difficulty in the Association of the Initial Consonant Sounds with the Printed Lower-Case Letter Symbol in the Initial Position of Nonsense Syllables. 237p. (Ed.D., University of Houston, 1962) Dissertation Abstracts, 22, No. 12, 4298-A. Order No. 62-2815, microfilm $3.10, xerography $10.80 from University Microfilms.

Subjects chosen from three classrooms in two communities, were first-grade children who had not previously failed, who were available for testing, and who passed vision and hearing screening tests. Thirty girls and 30 boys from each school met these standards. A phonics test, administered in January and May, consisted of 190 multiple choice items which required the children to pick the response beginning with the initial letter that matched the initial sound of the tape recorded oral nonsense syllable. Nineteen single letter consonants were used with 21 initial consonant sounds. Each consonant was presented with each of the long and short vowel sounds. Performance was compared with the sequence of presentation of initial consonants, the number of difficult words beginning with each consonant, and the frequency of all words beginning with each consonant introduced in the Ginn and Row-Peterson basic readers used by the subjects. The ascending order of difficulty (parenthesis indicates only slight differences) after one-half year of schooling was: (Z,S), R, W, M, T, K, F, D, H, L, B, (J, C(K), V, G(G)), (P, N), G(J), C(S), Y. After one year of schooling the order was: (S,Z), W, R, M, (D,J), (N, L, P, (G(G), T, K), (H, F, G(J), Y, C(K), V, B, C(S).

4339
Townsend, Agatha. "A New Bibliography on Phonics," The Reading Teacher, 15 (September 1961) 49-52.

This bibliography was compiled for the teacher of reading and/or the school administrator concerned with phonics and its impact upon instruction and public opinion. Although not comprehensive, the 16 annotated references are easily accessible to reading teachers in the United States and Canada. Areas covered range from phonics generalizations through the application of phonics to the primary grades, retarded readers, audiovisual aids, teaching methods, and teacher experimentation.

3284
Triggs, Frances Oralind. "The Development of Measured Word Recognition Skills, Grade Four through the College Freshman Year," Educational and Psychological Measurement, 12 (Autumn 1952) 345-49.

The ability to hear and match sounds and the ability to divide words into syllables were explored. The Diagnostic Reading Tests (Section 4, Word Attack, Part 2, Silent) were administered to 1,328 students from fourth grade through college freshman level. Results showed very little growth in ability to hear and match sound from sixth grade through college freshmen. Dividing words into syllables was measured using familiar words; a correct response was the right number of syllables without regard to exact division. This test showed some growth for college freshmen. The recommendation was that these and other reading skills be taught wherever needed. Two tables are included.

6086
Umstattd, Diana. "Developing Advanced Word Perception Skills," Reading and Inquiry. International Reading Association Conference Proceedings, 10 (1965) 30-32.

Upper elementary-grade children meet many informational needs by reading and consequently must have efficient reading skills. Among these are word perception skills such as phonetic skills, structural analysis skills, syllable phonics, dictionary skills, and abilities to use contextual clues. These fit into a sequence, the use of which is dependent upon specific purposes and abilities. Children should be helped to become versatile in using word perception skills so that they can efficiently read increasingly lengthy assignments.

6680
Venezky, Richard L. and Weir, Ruth H. A Study of Selected Spelling-to-Sound Correspondence Patterns. 95p. (CRP-3090, BR-5-0454 Stanford University, California, 1966) ED 010 843, microfiche $0.50, hard copy $4.75 from EDRS/NCR.

A linguistic model was developed for relating spelling to sound and for exploring those facets of English orthography which might relate to the reading process. The basis of the orthography was analyzed through discussions of the grapheme-phoneme parallel, relational units, markers, and graphemic alternations. Revisions and extensions were made to formulate this ideal system for translating from spelling to sound, based on an original group of 20,000 words. Tentative implications pointed to the possibility of teaching various pronunciations not by the simple-sequence method where variant pronunciations are presented sequentially but by offering all the different pronunciations at once, working with pairs of words which show the different pronunciations. It was felt that the potential generalization derived from this differentiation approach should effect better results than the simple-sequence method.

6525
Vernon, Magdalen D. (Compiler). Visual Perception and Its Relation to Reading -- An Annotated Bibliography. (Newark, Delaware: International Reading Association, 1966)

This annotated bibliography presents abstracts of 55 studies ranging in date from 1952 to 1965 within four headings--perception of shape by young children, perception of words by children, perception in backward readers, and perception of shapes, letters, and words by adults. Listings include journal articles, books, and monographs and are arranged alphabetically according to author within each category. Short introductory remarks by the compiler are included before the divisions.

3913
Waldman, John and Triggs, Frances Oralind. "The Measurement of Word Attack Skills," Elementary English, 35 (November 1958) 459-63.

The teaching of word attack skills in grade 1 to 8 was investigated. The lack of objective data from standardized testing is cited as problematic for schools trying to answer the charge of neglect in teaching word attack skills. The effectiveness of various sections of the Diagnostic Reading Tests in measuring proficiency in word attack skills at different grade levels was examined. Some problems prohibiting the teaching of reading skills are cited. The relationship between auditory discrimination and other word attack and spelling skills is discussed. Further research is encouraged, particularly to define what the difference between auditory and silent reading scores means. Tables are included.

Washington, Ernest David. Matching and Naming Letters of the Alphabet with and without Redundant Color Cues. 54p. (Ph.D., University of Illinois, 1968) Dissertation Abstracts, 29, No. 2, 490-A. Order No. 68-12,218, microfilm $3.00, xerography $3.00 from University Microfilms.

Three pilot studies and a final experiment were set up to determine whether redundant color cues would help disadvantaged children learn four letters simultaneously. Colors were found to be inadequate for the children to accomplish the task set forth, and it was necessary to reduce the four letters to two pairs of letters with overlearning before the match-to-sample task could successfully be completed. A transfer task was also administered, and it was found that redundant cues with overlearning were effective in facilitating transfer. The group using color and letter for the sample and matching stimuli made significantly fewer errors on the transfer task than did the group that had learned using only letters.

5707
Wedesweiler, Charles August. Syntax of Nonsense Passages and Eye Fixations in Oral Reading. 119p. (Ph.D., University of California, Los Angeles, 1965) Dissertation Abstracts, 26, No. 9, 5256-A. Order No. 66-3320, microfilm $3.00, xerography $5.80 from University Microfilms.

It was postulated that eye-movement responses, especially varying interfixation movements, are mediated by learned molecular habits related to linguistic characteristics of textual stimuli and that these responses can be analyzed on a moment-to-moment of phrase-by-phrase basis. Eight word sections were alternated in passages of 144 words. For half of the design, the first and last four-word sections within each eight-word section were reversed in position. The subjects, all males, were identified as average to excellent readers. The apparatus was a 35 mm. eye-movement camera, the Ophthalmograph, modified to hold rigidly a ¼ inch dowel which the subjects were to bite firmly while reading the passages aloud. A five-factor analysis of variance, mixed design, was employed. The relationship of the variables was stated in terms of the degree of syntactic constraint. It was hypothesized that learned molecular habits related to syntax would mediate decreasing eye fixations with increasing syntactic constraint, reversing the inequalities for prediction of significant differences for frequency of fixations. Additional controls were suggested for further experimentation.

6543
Weintraub, Sam. "What Research Says to the Reading Teacher -- Vocabulary Control," The Reading Teacher, 20 (May 1967) 759-65.

Twelve articles concerned with vocabulary control in basic reading materials are reviewed, and the following ideas are presented. (1) Critics feel that controlling vocabulary makes reading material dull and boring for elementary school children and that it does not account for the large listening and speaking vocabularies children often have on entering elementary school. (2) Proponents of vocabulary control feel that it promotes fluency and ease of reading and that it programs for the child a gradual and systematic introduction to reading. (3) Children do learn to read words other than those in the basal reader. (4) There is ample evidence for a controlled vocabulary for most children through second grade, and for children of less than average ability, the control should continue longer. (5) Assuming that children have read extensively outside their formal reading program and have mastered most of the basic word analysis skills, there seems to be little value in the planned introduction and repetition of a limited number of words beyond grade 3 or 4.

6607
Weir, Ruth H. _Formulation of Grapheme-Phoneme Correspondence Rules to Aid in the Teaching of Reading_. 100p. (CRP-S-039, Stanford University, California, 1964) ED 003 445, microfiche $0.50, hard copy $5.00 from EDRS/NCR.

Study objectives were (1) to analyze 5,000 English words to find the underlying patterns in the spelling-to-sound relationships, (2) to develop a model for mapping spelling-to-sound correspondences which not only displays in an economical fashion the underlying spelling patterns but also reflects the spelling-to-sound habits of the mature reader, (3) to formulate all the necessary rules, based upon the model, to predict the pronunciations of all words analyzed, and (4) to abstract rules and suggestions which could aid in the teaching of reading. The data and model which were developed provided implications that simple grapheme-to-phoneme correlations are not only unproductive for prediction of sound from spelling but also are in conflict with the underlying system of orthography. It was recommended that both morphology and syntax be considered in the selection and arrangement of words to be used in the design of teaching materials for the first three or four grades.

2976
Werner, Heinz and Kaplan, Edith. "Development of Word Meaning through Verbal Contexts, An Experimental Study," _Journal of Psychology_, 29 (April 1950) 251-57.

The acquisition of word meanings through verbal contexts was studied. The subjects ranged from 8½ to 13½ years of age and were divided into five age groups of 25 children each. The child's task was to find the meaning of an artificial word which appeared in six different verbal contexts. The study points out that correctness of response increased significantly from age level to age level, but it also emphasizes the different ways children gave signification to the artificial words. It was noted that many younger children regarded the artificial word as carrying the meaning of the whole or part of the context in which it appeared and created an intimate fusion of word and sentence (or sentence parts). Other forms of signification revealed that the children's concepts often lacked the circumscribed, stable character of the more mature concepts. The abrupt decrease of the most immature forms of signification, around the 10- to 11-year level, suggested a fundamental shift in language attitude toward relatively abstract, verbal tasks.

3286
Werner, Heinz and Kaplan, Edith. *The Acquisition of Word Meanings: A Developmental Study*. Monographs of the Society for Research in Child Development, Inc., 3, No. 1. (Evanston, Illinois: Northwestern University, 1950)

The processes underlying the acquisition of word meaning through verbal context were investigated. A cross-sectional sample of 125 children between the ages of 8-6 and 13-6 were individually tested using 12 nonsense words. Each word was presented in a series of six sentences which were ordered so that the contextual clues increased in directness as the child progressed through the series. The study is described in a three-part monograph. Section 1 presents a detailed qualitative and quantitative analysis of the results, including a discussion of the following topics: (1) correctness and conventionalization of response, (2) the process of signifying words, (3) the interpretation of sentences during signification, (4) lexicalization, (5) concrete symbolization, and (6) the rigidity of response and autocritical attitudes of the subjects. Section 2 reviews synoptically the results reported in Section 1 and attempts to evaluate these results in terms of general laws of development. The third section relates the findings of the study to other empirical and experimental investigations. Tables and a bibliography are included.

5709
Wheelock, Warren Henri. *An Investigation of Letter-Form-Training on the Development of Instant Responses of Recognition to the Capital Letters of Our English Alphabet*. 96p. (Ed.D., Arizona State University, 1965) *Dissertation Abstracts*, 26, No. 6, 3115-A. Order No. 65-10,391, microfilm $3.00, xerography $5.00 from University Microfilms.

Three schools representing extremes in the socioeconomic continuum in the Phoenix, Arizona, Elementary School District were selected to determine to what extent the influence of instant responses to capital letters can be trained, the effect that this training will have on the student's ability to discern similarities and differences in letter and word forms, the student's ability to perform on a learning task believed to approximate learning to read, and the effect discrimination task reinforcement will have when it is presented vertically and horizontally. All kindergarten children in the district were administered the visual discrimination subtests of the Lee-Clark Reading Readiness Test and Letter-Form-Training Criterion Test before and after training. Ninety subjects were randomly divided between the experimental and control groups. Within the experimental group, subgroups designated as "horizontal" and "vertical" were arbitrarily assigned. In addition to regular kindergarten activities, the children in the experimental group were given training to establish instant recognition responses to capital letters. After training, a task of learning 10 basic sight words was imposed on both groups. Word-knowledge findings indicated that kindergarten children could learn to make these responses and that the groups were significantly different in their ability to discern similarities and differences and to learn the 10 sight words. However, the effectiveness of the two methods of reinforcing visual discrimination could not be proved unequal.

6594
Williams, Joanna P. The Use of Programmed Instruction in the Development of Recognition Skills. 93p. (CRP-2100, Pennsylvania University, Philadelphia, 1965) ED 003 349, microfiche $0.50, hard copy $4.65 from EDRS/NCR.

Objectives of this research were to (1) investigate the effects of the response mode in programed instruction, (2) extend the theoretical principles on which programed instruction is based, and (3) develop effective methods of training recognition skill. A series of four experiments involving sixth-grade pupils were reported. In experiment 1, students worked through a linear program of 2 versions, constructed-response and straight text. Immediate and delayed test scores on an objective criterion test were higher for those students who received the constructed-response version. Experiment 2 showed that performance on a constructed-response test was superior for the constructed-response training mode. Predicted interaction between the training mode and type of test item was significant. Findings from a third experiment suggested that using a combination of modes in training may lead to confusion and reduce the effectiveness of a program. Experiment 4 concerned recognition of letter-like forms, one of the primary steps in learning to read. Data suggested that a relatively large amount of time might well be devoted to transformations.

5714
Wilson, Dustin Whittier, Jr. The Influence of Kinesthetic Ability on Learning to Read. 153p. (Ph.D., University of Minnesota, 1961) Dissertation Abstracts, 22, No. 8, 2642-A. Order No. 61-5870, microfilm $2.75, xerography $7.20 from University Microfilms.

The Kinesthetic Work Learning Test designed to measure the effect of visual, visual-auditory, visual-kinesthetic, and visual-auditory-kinesthetic methods of teaching upon learning new words was used to determine the effect kinesthetic ability has upon reading success. The test was administered during the first 4 weeks of the school year, and the population of 290 students was divided into three levels of kinesthetic ability. At the end of the school year comparisons were made between the levels of kinesthetic ability, scores on an Associative Learning Test, and the Stanford Achievement Paragraph and Word Meaning Tests. The general hypothesis stated there would be no significant differences between the three levels of kinesthetic ability and the Associative Learning scores, reading achievement scores, and interactions of the three variables. The findings indicated that levels of kinesthetic ability had little effect upon first-grade reading progress, as reading was taught in the community considered. Auditory stimuli had a positive effect on learning; visual stimuli had a negative effect.

5717
Wilson, James Roland. A Comparison of the Effectiveness of Automated, Adjunct Autoinstructional, and Non-Automated Procedures for Teaching Sight Recognition to First Grade Pupils. 107p. (Ph.D., University of Alabama, 1964) Dissertation Abstracts, 25, No. 12, Part I, 7095-A. Order No. 65-4073, microfilm $2.75, xerography $5.40 from University Microfilms.

The effectiveness of automated, adjunct autoinstructional, and nonautomated procedures for teaching sight word recognition to first-grade pupils was investigated. The subjects were four classes of Alabama students who were randomly assigned to four treatments: automated instruction, nonautomated instruction, adjunct autoinstruction, and control. The learning task was 48 sight words contained in both the Buckinghan-Dolch Combined Word List and the Gates Primary Vocabulary for Primary Grades. Hypotheses which compared the effect of treatments, of ability levels, and the interaction effects of treatments and ability levels were tested on the results of both an immediate and 24-day post-test. Analysis of variance was the statistical technique used. An analysis of the immediate post-tests showed the following results: (1) Subjects in the automated, nonautomated, and adjunct autoinstructional groups achieved significantly higher scores than those in the control group. (2) There were no statistically significant differences in achievement among subjects who received automated, nonautomated, and adjunct autoinstruction. (3) Subjects in the high ability levels of all groups achieved significantly higher scores than those in the low ability levels. Analysis of the 24-day delayed post-test scores yielded the following results: (1) There were no significant differences among the four methods of instruction. (2) There were no significant differences in achievement that could be attributed to ability level. (3) There were no statistically significant differences in achievement due to interaction between ability level and treatment.

4531
Wilson, Louis Ada. "Children's Realistic Vocabulary," Elementary English, 40 (January 1963) 37-42, 77.

A realistic vocabulary list for children was compiled from language written by third graders. The words were taken from individual compositions, group compositions, and words children asked to have spelled for them. The list was alphabetized and then compared with other basic lists, such as Edgar Dale's and Jeanne Chall's list of 3,000 familiar words, Arthur I. Gates' list of words suggested for the primary grades, The Gates Spelling List, "A Basic Vocabulary for Elementary School Children," and "The Teacher's Word Book of 30,000 Words." The following conclusions were reached. A more selected vocabulary which has usage from grades 1 through 8 should be available for children's grade-3 reading material. The "Children's Realistic List" has a basic vocabulary which contains words learned in first and second grades and words basic for use in grades 3 through 8. The "Children's Realistic List" indicates a wider range of words than had been assumed when it was classified with the Thorndike-Lorge list, and it has a balanced flow of speech.

6553
Winkley, Carol K. "Which Accent Generalizations Are Worth Teaching," The Reading Teacher, 20 (December 1966) 219-24, 253.

The relative merits of Gray's 18 accent generalizations were assessed first, by using a word count to determine the percentage of multisyllabic words which complied with or differed from each generalization and, second, by attempting to determine the relative usefulness of each generalization to children faced with the task of identifying unfamiliar multisyllabic words. The subjects of the second part of this study were 409 fourth, sixth, and eighth graders. It was found that 12 generalizations were worth teaching. This list was shortened and simplified to yield the following: (1) when there is no other clue in a two-syllable word, the accent is usually on the first syllable, (2) in inflected or derived word forms, the primary accent usually falls on or within the root word, (3) if de-, re-, be-, ex-, in-, or a- is the first syllable in a word, it is usually unaccented, (4) two vowel letters together in the last syllable of a word may indicate an accented final syllable, (5) when there are two like consonant letters within a word, the syllable before the double consonants is usually accented, (6) the primary accent usually occurs on the syllable before the suffixes -ion, -ity, ic, -ical, -ian, -ial, or -ious, and on the second syllable before the suffix -ate, (7) in words of three of more syllables, one of the first two syllables is usually accented.

3587
Witty, Paul A. and Sizemore, Robert A. "Phonics in the Reading Program: A Review and an Evaluation," Elementary English, 32 (October 1955) 355-71.

Research concerning the place and value of phonics in the reading program from 1913 to 1954 is reviewed and evaluated. On the basis of the studies reviewed, it is concluded that a readiness program for phonics can be recommended and that phonic approaches are valuable when working with very poor readers. It is observed that phonic systems can lead to a tendency in children to recognize words piecemeal. The failure of phonics instruction to utilize other techniques to bring about quick, accurate word recognition is noted. References are listed.

7049
Ylisto, Ingrid Pylvanien. An Empirical Investigation of Early Reading Responses of Young Children. 159p. (Ph.D., The University of Michigan, 1967) Dissertation Abstracts, 28, No. 6, 2153-A. Order No. 67-15, 728, microfilm $3.00, xerography $7.40 from University Microfilms.

This study tested the hypothesis that the reading process consists of six sequential steps from passive awareness to independent word recognition and use of printed word symbols. An inventory of 25 arbitrarily selected printed word symbols, assumed to constitute the natural environment of the child, was constructed and administered individually and orally to 82 4-year-olds, 76 5-year-olds, and 71 6-year-olds who had not received formal reading instruction. Intelligence scores were obtained for 70 subjects, and a socioeconomic index was determined for the total group from father's occupation and from father's and mother's educations. The results of the inventory confirmed the sequential step-by-step recognition pattern. No significant differences were found in early reading status between different age groups. No difference in early reading status was found between boys and girls. Subjects who had higher IQ's and who were from higher socioeconomic levels performed significantly better on the inventory. An increased emphasis on reading as an integral part of all learning activities and an increased use of the language experience approach to reading instruction was suggested.

Part II

Information on Word Recognition, 1900-1949

787
Anonymous. "Can First Grade Children Learn Two New Words A Day?" Denver Public Schools Bulletin, 2 (October 1928) 10, 12.

Reports the findings in a study to determine the number of words known by first-grade children on entering school and the probable number of words they can learn daily.

14
Ballard, P. B. "Norms of Performance in Reading," Journal of Experimental Pedagogy, 3 (December 1915) 153-61.

Reports results of a test designed to measure ability to translate meaningful symbols into sounds.

2206
Baranyai, Erzsebet I. "Relation of Comprehension to Technique in Reading," Journal of Genetic Psychology, 59 (September 1941) 3-26.

Presents data from 238 pupils pertaining to the relation among vision, recognition, and reproduction in the reading act and the extent to which comprehension influences technique in reading.

1125
Bergman, W. G. and Vreeland, Wendell. "Comparative Achievement in Word Recognition under Two Methods of Teaching Beginning Reading," Elementary School Journal, 32 (April 1932) 605-16.

Compares the progress, as measured by two tests, of two groups of first-grade pupils taught by the "picture-story method" and by a "visual method."

1850
Berman, Arthur. "The Influence of the Kinesthetic Factor in the Perception of Symbols in Partial Reading Disability," Journal of Educational Psychology, 30 (March 1939) 187-98.

Analyzes the effect of using a "kinesthetic-tactual stimulus" for recognition, acquisition, and retention of nonsense syllables and geometrical figures by 24 partial reading disability cases, aged 8 to 15.

578
Berry, Frances M. "The Baltimore Reading Readiness Test," Childhood Education, 3 (January 1927) 222-23.

Describes the aims and construction of a word-discrimination test and a picture-vocabulary test.

36
Boggs, Lucinda Pearl. "How Children Learn to Read: An Experimental Study," Pedagogical Seminary, 12 (December 1905) 496-502.

Summarizes the conclusions of studies concerning the effect of the form and content of printed material on recognition and presents the results of a new experiment.

38
Bowden, Joseph Horton. "Learning to Read," Elementary School Teacher, 12 (September 1911) 21-33.

Presents the results of two experiments to determine how children recognize words. Discusses the need for phonetics.

1011
Braem, Helen R. "An Experiment at Letchworth Village," New York State Education, 18 (October 1930) 162-64.

Compares the results of a phonetic method and a sight method in teaching mentally retarded pupils to read.

53
Buswell, Guy Thomas. "The Relationship between Eye-Perception and Voice-Response in Reading," Journal of Educational Psychology, 12 (April 1921) 217-27.

Presents a summary of studies undertaken to show the relation between eye-perception and voice-response in reading.

1017
Cabell, Elvira D. "Status of Phonics Today with Some Account of Changes of the Past Five Years," Chicago Schools Journal, 13 (April and May 1931) 370-73, 430-34.

Summarizes the results of various studies relating to phonics in an attempt to determine present tendencies.

1019
Carroll, Herbert A. "The Effect of Intelligence upon Phonetic Generalization," Journal of Applied Psychology, 15 (April 1931) 168-81.

Presents the results of tests in spelling given in grades 4 and 5 to determine the effect of intelligence on phonetic generalization.

915
Charles, John W. "An Experiment in Teaching Reading," Pedagogical Seminary and Journal of Genetic Psychology, 36 (December 1929) 591-94.

Reports progress in word recognition made by a child between 2 and 3 years of age.

1143
Crosland, H. R. "Letter-Position Effects, in the Range of Attention Experiment, As Affected by the Number of Letters in Each Exposure," Journal of Experimental Psychology, 14 (October 1931) 477-507.

Reports the results of an experiment with 140 college sophomores to verify the conclusions reached in a similar experiment in 1928.

922
Crosland, H. R. "The Influence of Letter Position on Range of Apprehension - A Reply to Dr. Tinker, " Psychological Bulletin, 26 (June 1929) 375-77.

Presents data in support of his objections to comments by Miles A. Tinker ("Visual Apprehension and Perception in Reading," Psychological Bulletin, 26 (April 1929) 227) relative to a study of the range of visual apprehension made by Crosland and Johnson.

923
Crosland, H. R. and Johnson, Georgia. "The Range of Apprehension As Affected by Inter-Letter Hair-Spacing and by the Characteristics of Individual Letters," Journal of Applied Psychology, 12 (February 1928) 82-124.

Reports methods and results of a study among 30 college students and faculty members to determine the influence on apprehension range of interletter spacing and of the characteristics of individual letters.

1859
Curoe, Philip R. V. "An Experiment in Enriching the Active Vocabularies of College Seniors," School and Society, 49 (April 22, 1939) 522-24.

Compares the scores of practice and control groups on a word knowledge list to determine the value of 3 minutes devoted daily to vocabulary enrichment at the college level.

1862
Dale, Edgar and Weedon, Vivian. "Effect of a Time Interval on Words Known," Educational Research Bulletin, 18 (May 3, 1939) 123-26, 143-44.

Compares the familiarity of seventh- and eighth-grade pupils with 50 business terms in 1928, 1932, and 1937.

2635
Davis, Frederick B. "The Factorial Composition of Two Tests of Comprehension in Reading," Journal of Educational Psychology, 37 (November 1946) 481-86.

Presents correlation coefficients, based on test scores from 689 eleventh- and twelfth-grade boys, between "word knowledge" and "reasoning in reading" and 14 items in a judgment and reasoning battery. Data on factorial composition of recognition-vocabulary items and inferences-in-reading items are also presented.

816
Dearborn, Frances R. "A Study of Erroneous Word Concepts in Reading," Elementary English Review, 6 (January 1929) 3-6, 23.

Presents the results of a preliminary study of the word difficulties encountered in reading by third- and fourth-grade pupils.

1669
Dickson, Belle L. "Trends in the Teaching of Phonics," California Journal of Elementary Education, 5 (August 1936) 51-58.

Describes present trends in the teaching of phonics as revealed by an analysis of the contents of 18 reading manuals and indicates the extent to which they have been influenced by scientific studies.

2555
Dolch, Edward William. "How Hard Were the McGuffey Readers?" Elementary School Journal, 46 (October 1945) 97-100.

Compares primers and first, second, and third readers of the McGuffey Series with modern series in respect to number of running words, number of new words, and placement in thousands on the Thorndike list of 20,000 words.

1753
Dolch, Edward William. "Phonics and Polysyllables," Elementary English Review, 15 (April 1938) 120-24.

Presents data concerning the extent to which commonly taught phonograms are found as syllables or parts of syllables in polysyllabic words.

1453
Dolch, Edward William. "The Efficiency of Primers in Teaching Word Recognition," Journal of Educational Research, 28 (December 1934) 271-75.

Determines through the use of informal tests the extent to which various groups of pupils had mastered the vocabularies of the two basic primers used.

1754
Dolch, Edward William and Bloomster, Maurine. "Phonic Readiness," Elementary School Journal, 38 (November 1937) 201-05.

Presents correlations between the mental age and phonic achievement of 115 pupils in grades 1 and 2.

1569
Donnelly, Helen E. "The Growth of Word Recognition Skills in Grade One," Education, 56 (September 1935) 40-43.

Reports the results of tests given in November, February, and May to 389 first-grade pupils to determine general growth and individual variations in word recognition ability.

1039
Dreis, Thelma A. "A Case in Remedial Reading," Elementary School Journal, 31 (December 1930) 292-300.

Describes the methods used and the progress made by a boy who encountered unusual difficulty in recognizing word forms and in fusing elements of words into a unit pronunciation.

1757
Eames, Thomas. "A Study of the Speed of Word Recognition," Journal of Educational Research, 31 (November 1937) 181-87.

Discusses briefly the psycho-physical processes involved in word recognition and summarizes the results of a study of recognition speed measured in fractions of seconds in 90 cases "of which 50 were cases of difficult reading and 40 were children without reading difficulty."

2815
Eames, Thomas H. "The Effect of Glasses for the Correction of Hypermetropia and Myopia on the Speed of Visual Perception of Objects and Words," Journal of Educational Research, 42 (March 1949) 534-40.

Compares the speed of object and word perception of 100 subjects between 5 and 17 years of age when corrective lenses in varying degrees and for the two major kinds of refractive errors were used.

2638
Eames, Thomas H. "The Speed of Object Recognition and of Word Recognition in Groups of Passing and Failing Pupils," The Journal of Educational Psychology, 38 (February 1947) 119-22.

Compares the speed of recogniton of pictures of objects and familiar words known to be in the subjects' sight vocabulary in the case of pupils from 6 to 13 years of age, 254 of whom were failing in reading or in subjects requiring reading and 75 of whom were passing in all subjects.

1872
Eames, Thomas H. "The Speed of Picture Recognition and the Speed of Word Recognition in Cases of Reading Difficulty," American Journal of Ophthamology, 21 (December 1938) 1370-75.

Compares the speed of word recognition and picture recognition for 100 pupils with reading difficulty and 50 cases without reading difficulty. Comparisons involving those with and without eye difficulties are also made.

823
Fennell, Ethel L. "Recurring Words and Their Relation to Difficulties in Comprehension," Elementary School Journal, (September 1928) 42-53.

Reports the results of an analysis of the primer, first reader, and second reader of five series of readers to determine the number of different meanings that attach to recurring words.

92
Fernald, Grace M. and Keller, Helen. "The Effect of Kinesthetic Factors in the Development of Word Recognition in the Case of Non-Readers," Journal of Educational Research, (December 1921) 355-77.

Discusses the methods used in teaching word recognition to four children of normal intelligence who could not read after 3 or 4 years of school experience.

1159
Garrison, S. C. and Heard, Minnie Taylor. "An Experimental Study of the Value of Phonetics," Peabody Journal of Education, 9 (July 1931) 9-14.

Compares the progress for 3 years of two groups of primary pupils, one receiving training in phonetics and the other receiving no such training.

458
Gates, Arthur I. "A Test of Ability in the Pronunciation of Words," Teachers College Record, 26 (November 1924) 205-19.

Describes the steps taken in organizing and standardizing a word-pronunciation test. Presents correlations between this test and other verbal tests. Considers causes of word recognition difficulty.

606
Gates, Arthur I. "Studies of Phonetic Training in Beginning Reading," Journal of Educational Psychology, 18 (April 1927) 217-26.

Discusses the method and the outcome of an experiment with two school groups to determine the relative values of phonetic and nonphonetic training.

527
Gates, Arthur I. "The Construction of A Reading Vocabulary for the Primary Grades," Teachers College Record, 27 (March 1926) 625-42.

Describes the steps taken in evaluating 2,781 word forms, or a total of about 4,300 words, on the basis of utility, interest, and difficulty.

107
Gates, Arthur I. and Boeker, Eloise. "A Study of Initial Stages in Reading by Pre-school Children," Teachers College Record, 24 (November 1923) 469-88.

Reports the results of a study to determine the means by which children learn to read words.

1883
Gates, Arthur I., Bond, Guy L., and Russell, David H. "Relative Meaning and Pronunciation Difficulties of the Thorndike 20,000 Words," Journal of Educational Research, 32 (November 1938) 161-67.

Presents findings of a study of 600 children in grades 2B to 6A, inclusive, to determine ability to recognize, pronounce, and give meanings of 30 words from each of the successive thousands of the Thorndike list.

1884
Gates, Arthur I. and Russell, David H. "Types of Materials, Vocabulary Burden, Word Analysis, and Other Factors in Beginning Reading, I and II," Elementary School Journal, 39 (September and October 1938) 27-35, 119-28.

Summarizes the results of a controlled experiment, including 354 first-grade pupils, to ascertain (1) the effects of using a large amount of workbook material in addition to that accompanying the basic primer used, (2) the results of using material having vocabulary closely restricted to that of the basal reader as compared with use of material not so limited, and (3) the results produced by varying amounts and kinds of phonic activities and word analysis.

1890
Gunderson, Agnes G. "Simplified Phonics," Elementary School Journal, 39 (April 1939) 593-603.

Summarizes evidence and opinions regarding the value of phonics and presents data regarding the phonogram load found in 10 primary reading manuals, with discussion of possibilities for simplification.

156
Hamilton, Francis. The Perceptual Factors in Reading. Columbia University Contributions to Philosophy, Psychology, and Education, 17, No. 1. (New York: Science Press, 1907) 56p.

Reports studies of the factors and processes involved in word perception and of the effect of context on word perception.

2232
Harris, Theodore L. A Laboratory Study of the Relation of Selected Factors to the Span of Recognition in Silent Reading. A Dissertation Submitted to the Faculty of the Division of the Social Sciences in Candidacy for the Degree of Doctor of Philosophy. (Chicago: University of Chicago Libraries, 1941) 144p.

Describes the procedures and results of a controlled experiment in grades 2 to 6, and in the ninth and thirteenth grades, to determine the span of recognition and the relationship of 10 psychological factors and nine visual factors to it.

2649
Hartmann, George W. "Further Evidence on the Unexpected Large Size of Recognition Vocabularies among College Students," The Journal of Educational Psychology, 37 (October 1946) 436-39.

Summarizes data secured from 106 college students who were directed to supply the meanings of 50 words selected from the same relative position on every 40 pages of the Merriam Webster "New International Dictionary."

2741
Hildreth, Gertrude. "A Comparison of the Dale, Dolch, and Rinsland Word Lists," Journal of Educational Psychology, 39 (January 1948) 40-46.

Points out overlappings in the lists and certain differences attributable to the nature of the lists and the way in which the words were selected. Suggests practical uses of the combined lists.

1483
Hildreth, Gertrude. "An Individual Study in Word Recognition," Elementary School Journal, 35 (April 1935) 606-19.

Presents the results of a study of the achievement of a normal child of entering school age in word-symbol-learning as the result of consecutive daily practice.

1593
Hill, Mary Buffum. "A Study of the Process of Word Discrimination in Individuals Beginning to Read," Journal of Educational Research, 29 (March 1936) 487-500.

Presents the results of an analytical study at the beginning level and in normal readers of types of errors in word discrimination that investigators have reported at various levels of reading attainment.

1592
Hill, Mary Buffum. "Experimental Procedures in the Study of the Process of Word Discrimination in Reading," Journal of Educational Research, 29 (February 1936) 473-82.

Reports the results of a critical examination of the validity of the techniques already used in the study of word discrimination reading.

838
Horn, Ernest. "The Child's Early Experience with the Letter A," Journal of Educational Psychology, 20 (March 1929) 161-68.

Presents the results of a study to determine the extent to which the teaching of phonics is significant and worthwhile.

2356
House, Ralph W. "An Experiment with the Webster Complete Symbolization," Journal of Experimental Education, 11 (June 1943) 298-301.

Summarizes the results of a study in grades 5-8 to determine how successfully teachers who are not phonetically trained can help pupils master the use of a complete symbolization, as measured by an independent analysis of unfamiliar words.

2436
House, Ralph W. "Do Pupils Learn to Use Diacritical Marks?" Journal of Educational Research, 37 (January 1944) 352-55.

Presents the results of a synthetic word-pronunciation test given to 1,084 pupils in grades 4 to 12, inclusive, to determine competence in using diacritical marks in the independent analysis of unfamiliar words.

2234
House, Ralph W. "The Effect of a Program of Initial Instruction on the Pronunciation Skills at the Fourth-Grade Level as Evidenced in Skills Growth," Journal of Experimental Education, 10 (September 1941) 54-56.

Reports how successfully 164 fourth-grade pupils had mastered the use of a complete symbolization, as measured by independent analysis of unfamiliar words, following a controlled experience with a specific form of instructional material.

2141
House, Ralph W. The Efficiency of a Program of Initial Instruction on the Pronunciation Skills at the Fourth-Grade Level as Evidenced in Skills Growth. An abstract of a dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Education at the Pennsylvania State College, June 1940. (Ann Arbor, Michigan: University Microfilms, 1941)

Presents data secured in a controlled experiment to determine how successfully fourth-grade pupils can master the use of a complete symbolization, as measured by independent analysis of unfamiliar words.

185
Huey, Edmund B. "On the Psychology and Physiology of Reading, II," American Journal of Psychology, 12 (April 1901) 292-313.

Reports the results of experiments to determine rate of reading, perception of reading units, and interpretative processes in reading.

183
Huey, Edmund B. "Preliminary Experiments in the Physiology and Psychology of Reading," American Journal of Psychology, 9 (July 1898) 575-86.

Considers the relative advantages of vertical and horizontal reading, the importance of the first and last parts of words in word recognition, and characteristic eye movements in reading.

197
Jones, Robinson G. "Standard Vocabulary," Minimum Standards and Current Practices in the Formal Subjects, Fourteenth Yearbook of the National Society for the Study of Education, Part I, 37-43. (Chicago: University of Chicago Press, 1915)

Describes the procedure in deriving a standard vocabulary for use in measuring the ability of primary pupils to pronounce words at sight.

216
Kibbe, Delia. "A Classroom Test of the Span of Recognition," Elementary School Journal, 24 (September 1923) 60-62.

Describes a simple test for measuring the recognition span of elementary school pupils.

215
Kibbe, Delia. Preliminary Tests for Studying the Span of Recognition in Reading. (Unpublished Master's Thesis, Department of Education, University of Chicago, 1922).

Describes the procedure in organizing and standardizing perception tests.

1391
Kirk, Samuel A. "The Influence of Manual Tracing on the Learning of Simple Words in the Case of Subnormal Boys," Journal of Educational Psychology, 24 (October 1933) 525-35.

Compares the relative efficiency of the manual tracing (kinesthetic) method with the conventional sight method in the case of six subnormal boys.

2445
Lampman, Permilla. "Finding the Correct Reading Group for Each Child in Grade II," The Elementary School Journal, 44 (February 1944) 358-60.

Reports growth in reading, as measured by the Detroit word recognition test, on the part of slow, middle, and fast groups and of two individual cases.

2513
Leavell, Ullin W. and Marcum, Dixie M. "Reading Recognition Vocabulary Test as Diagnostic Instrument," Peabody Journal of Education, 22 (November 1944) 157-69.

Presents a basic test of 300 words, showing the occurrence of each word in each of six related studies.

2022
Lichtenstein, Arthur. "The Letter-Sounds: A Reading Problem," Elementary English Review, 17 (January 1940) 23-24, 27.

Compares achievement in recognizing and naming the sounds of letters and the names of letters. Offers an explanation for the greater difficulty of the former.

955
Lohmann, Elsa. "Phonics As Taught in Our First Grades Throughout the United States," Educational Method, 9 (January 1930) 217-21.

Summarizes opinions and practices relative to the teaching of phonics.

1075
McCallister, James M. "The Effectiveness of Remedial Instruction in Reading in the Junior High School," School Review, 39 (February 1931) 97-111.

Describes the methods used in overcoming the reading deficiencies of 12 "decipherers," four "slow learners," five "slow, accurate readers," and six "word-readers" and reports data showing the permanency of improvement.

1505
Moore, Herbert. "Training College Freshmen to Read," Journal of Applied Psychology, 18 (October 1934) 631-34.

Presents evidence of the value of discussions on how to read and study supplemented by exercises in finding central meanings, increasing reading rate, building up words, analyzing words, and comparing the meanings of similar proverbs.

1508
Myers, Vest C. "A Study of Present-Day Methods of Developing Independent Recognition of Words," Educational Method, 14 (January 1935) 205-06.

Presents the results of a survey of courses of study, manuals accompanying readers, and recent books and articles todetermine the use of phonics, contextual clues, seat work, and the reading table in promoting the independent recognition of words.

284
Oglesby, Eliza F. "A First-Grade Reading Test," Journal of Educational Research, 10 (June 1924) 29-41.

Describes purpose, validity, and reliability of the Detroit word recognition test. Presents norms for fast, medium, and slow groups.

859
Orton, Samuel T. "The ' Sight Reading' Method of Teaching Reading, As a Source of Reading Disability," Journal of Educational Psychology, 20 (February 1929) 135-43.

Discusses conflicting views concerning word-blindness and reviews findings which show that "sight-reading" methods of teaching reading are not effective in overcoming certain types of reading disability.

1088
Payne, Cassie Spencer. "The Classification of Errors in Oral Reading," Elementary School Journal, 31 (October 1930) 142-46.

Presents a classification of the errors made by pupils in grades 2-5, inclusive, in pronouncing a list of words some of which were assumed to be familiar and some unfamiliar.

2520
Poston, Freda and Patrick, James R. "An Evaluation of Word and Picture Tests for First and Second Grades," Journal of Applied Psychology, 28 (April 1944) 142-52.

Reports the results of tests given to 50 first-grade and 50 second-grade pupils "to evaluate techniques of word and picture matching employed in three different tests of word recognition and word meaning."

2593
Pulliam, R. A. and Watson, Kathryn. "A Basic Phrase List for Use in Reading Instruction," Elementary School Journal, 46 (May 1946) 513-18.

Reports in the case of 50 fourth-grade children the correlation between comprehension scores in reading and the ability to recognize at sight basic thought-unit cards containing two- and three-word phrases.

756
Pyle, W. H. "A New Primary Word-Recognition Test with Monthly Norms," Elementary School Journal, 28 (October 1927) 137-39.

Describes the procedure in selecting 50 words for a word-recognition test and in developing monthly norms.

1613
Rickard, Garrett E. "The Recognition Vocabulary of Primary Pupils," Journal of Educational Research, 29 (December 1935) 281-91.

Reports the 123 words common to the first 200 words in the International Kindergarten List and the Horn List and presents results of tests to indicate the extent of their mastery in the first three grades.

1807
Rogers, Maurine V. "Phonic Ability As Related to Certain Aspects of Reading at the College Level," Journal of Experimental Education, 6 (June 1938) 381-95.

Presents the findings of an experimental study involving 80 freshmen to determine the relationship between mispronunciations and comprehension and the effect of phonics training upon certain aspects of reading.

2393
Selke, Erich. "Word-Recognition Difficulties of Second Grade Pupils," Elementary English Review, 20 (April 1943) 155-56.

Reports the results of a study to determine which words common to 15 or more primers caused the most difficulty to second-grade pupils.

763
Sexton, Elmer K. and Herron, John S. "The Newark Phonics Experiment," Elementary School Journal, 28 (May 1928) 690-701.

Reports the results of experiments in eight schools, varying widely as to the nationality of the pupils, to determine the value of phonics in teaching beginning reading.

766
Smith, Nila Banton. "The Present Situation in Phonics," Elementary English Review, 4 (November and December 1927) 278-81, 303-7.

Discusses the present status of phonics in the teaching of reading, basing conclusions on the results of studies and on wide teaching and supervisory experience.

2062
Spache, George. "A Minimum Reading-Spelling Vocabulary for Remedial Work," Journal of Educational Research, 33 (November 1939) 161-74.

Discusses the need for and presents a minimum reading-spelling vocabulary of 1,225 words which was determined by checking Stone's "A Graded Vocabulary for Primary Reading" against the "Gates Average Spelling Grade Placement."

1940
Spache, George. "A Phonics Manual for Primary and Remedial Teachers," Elementary English Review, 16 (April and May 1939) 147-50, 156, 191-98.

Reviews and interprets the literature on phonics teaching, stressing its purposes, extent, and results and noting arguments against it, where and how to teach it, and what phonic symbols to teach.

2182
Spache, George. "Characteristic Errors of Good and Poor Spellers," Journal of Educational Research, 34 (November 1940) 182-89.

Presents an analysis of the errors of 25 average and 25 poor spellers in grades 3 to 5 which shows close correspondence between problems in teaching spelling and basic habits of word recognition.

770
Steiner, M. A. "An Experiment in the use of Flash Cards and Prepared Lantern Slides," University of Pittsburgh School of Education Journal, 3 (May-June 1928) 101-11.

Presents the results of an experiment with 15 third-grade pupils to compare regular reading practice with such practice supplemented in one case by flash cards and in another by lantern slides.

1942
Stone, Clarence R. "Most Important One Hundred Fifty Words for Beginning Reading," Educational Method, 18 (January 1939) 192-95.

Gives the number of new words belonging to each of 8 difficulty levels categorically determined for the first three readers. Ranks 150 words chosen as most usable for the earliest two stages.

1720
Tate, Harry L. "The Influence of Phonics on Silent Reading in Grade I," Elementary School Journal, 37 (June 1937) 752-63.

Presents the results of a controlled experiment continuing for 8 weeks to determine the influence of phonics on silent reading in grade 1 when a special period is used for formal instruction and drill in phonics.

2067
Tate, Harry L., Herbert, Theresa M., and Zeman, Josephine K. "Nonphonic Primary Reading," *Elementary School Journal*, 40 (March 1940) 529-37.

Presents the results of a controlled experiment extending over a period of two years to determine the effect on primary reading of the total non-use of phonics. Also compares the effect of nonphonic, incidental phonic, and formal phonic methods.

373
Thomson, Godfrey H. and Smith, Frank W. "The Recognition Vocabulary of Children," *British Journal of Psychology*, 8 (October 1915) 48-51.

Presents the results of a vocabulary test given to children from 9 to 14 years of age, inclusive.

381
Thorndike, Edward L. "Word Knowledge in the Elementary School," *Teachers College Record*, 22 (September 1921) 334-70.

Describes the procedure in an elaborate study of reading vocabularies. Discusses the uses of the word list derived.

2530
Thorndike, Edward L. and Lorge, Irving. *The Teacher's Word Book of Thirty Thousand Words*. (New York: Bureau of Publications, Teachers College, Columbia University, 1944). 274p.

Extends the list of 20,000 words published in 1931 by including three additional counts of over 4 1/2 million words each.

498
Thorndike, Edward L. and Symonds, Percival M. "Difficulty, Reliability, and Grade Achievements in a Test of English Vocabulary," *Teachers College Record*, 24 (November 1923) 438-45.

Describes the procedure in standardizing a test of ability to recognize the meaning of words. Discusses reliability and effect of practice and presents norms of achievement.

376
Thorndike, Edward L. "The Measurement of Achievement in Reading: Word Knowledge," *Teachers College Record*, 17 (November 1916) 430-54.

Describes a word-knowledge or visual-vocabulary test and its derivation.

2071
Tiffin, Joseph and McKinnis, Mary. "Phonic Ability: Its Measurement and Relation to Reading Ability," School and Society, 51 (February 10 1940) 190-92.

Summarizes the findings of a study among 155 pupils in grades 5 to 8 "to determine whether, and to what extent, phonic ability, as measured by a reliable instrument, is related to reading ability as measured by certain standardized reading tests."

1629
Trimble, Otis C. and Asperger, Dorothy H. "The 'Recognition Spans' of 'Good' and 'Poor' Readers: A Comparative Study," Journal of Applied Psychology, 19 (December 1935) 665-82.

Presents the results of tests given to five "good" readers and five "poor" readers in the third grade to determine their average reaction time to words and phrases of different letter and word lengths and their span of recognition.

1956
Turrentine, Louise G. "Recent Trends in the Field of Phonics," Texas Outlook, 23 (January 1939) 49-50.

Gives a brief summary of some of the studies and expert opinions published the past few years dealing with the value of phonics. Presents data on mental age and phonic achievement.

396
Vasey, F. T. "Vocabulary of Grammar Grade School Children," Journal of Educational Psychology, 10 (February 1919) 104-7.

Reports the results of tests given to 125 children in grades 5 to 8, inclusive, to determine their reading vocabularies.

1115
Vernon, M. D. "The Errors Made in Reading," Studies in the Psychology of Reading. Reports of the Committee upon the Physiology of Vision, III. Privy Council, Medical Research Council, Special Report Series, No. 130, 5-40. (London: His Majesty's Stationery Office, 1929).

Reports the results of a series of experiments with adults to determine the nature of the errors made when recognizing material presented in a tachistoscope.

399
Vogel, Mabel, Jaycox, Emma, and Washburne, Carleton W. "A Basic List of Phonics for Grades 1 and 2," Elementary School Journal, 23 (February 1923) 436-43.

Reports the methods and the results of a study to determine the most frequently recurring phonetic elements in grades 1 and 2.

778
Washburne, Carleton and Vogel, Mabel. "A Revised List of Phonics for Grade II," Elementary School Journal, 28 (June 1928) 771-77.

Presents a list of phonic elements for use in the second grade based on an analysis of the reading vocabulary for the primary grades prepared by Arthur I. Gates.

1834
Wheeler, Lester R. "A Study of the Relative Difficulty of a Primary Reading Vocabulary," Pedagogical Seminary and Journal of Genetic Psychology, 52 (March 1938) 183-201.

Compares (A) the efficiency of teaching words "through play"and through "regular classroom methods" in the case of 227 pupils in grade 1B and (B) the difficulty of learning the words.

779
Wiley, Will E. "Difficult Words and the Beginner," Journal of Educational Research, 17 (April 1928) 278-89.

Reports the results of a controlled experiment with 56 first-grade pupils to determine the nature of the difficulties encountered in learning to recognize printed words.

2083
Wilson, Frank T. and Flemming, Cecile. "Grade Trends in Reading Progress in Kindergarten and Primary Grades," Journal of Educational Psychology, 31 (January 1940) 1-13.

Compares the scores of groups of pupils tested during 3 school years on batteries of reading and symbols tests. Points out the relation between mastery of the mechanics of word recognition and progress in reading.

2082
Wilson, Frank T. and Flemming, Cecile. "Symbols Scales for Use in Beginning Reading," Journal of Psychology, 8 (July 1939) 99-114.

Presents data from 217 pupils in kindergarten and grades 1-3 inclusive, concerning ability to name capital and small letters, to give letter sounds, to recognize consonant and vowel letter sounds, to print or write capital and small letters, to write digits, and to give phonic combinations.

1835
Wilson, Frank T., Flemming, Cecile, Burke, Agnes, and Garrison, Charlotte G. "Reading Progress in Kindergarten and Primary Grades," Elementary School Journal, 38 (February 1938) 442-49.

Summarizes data and presents conclusions from a 4-year study concerning certain factors which influence progress in primary reading, particularly abilities with letter forms and sounds.

1430
Wilson, Clara. "A New Study in Primary Reading," Childhood Education, 10 (January 1934) 195-96.

Compares the achievement of 20 second-grade children in oral and silent reading with the number of techniques employed in attacking new words.

681
Yoakam, Gerald Alan. "A Cooperative Experiment in Word Pronunciation," University of Pittsburgh School of Education Journal, 2 (January-February 1927) 49-55.

Reports the findings of a study to determine the number of words from the first thousand in the Thorndike word list that can be pronounced by first-grade pupils.

Appendix A

How to Order Microfiche and Hard Copy Reproductions of Documents from the ERIC Document Reproduction Service

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